THE LIVED EXPERIENCES OF FEMALE HEADS IN MALAWI

An exploration of their health care accessibility by making use of a triangulated access model

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Abstract

Ensuring that everyone has good accessibility to health services remains a challenge, especially in developing country contexts, even though the concept of health care accessibility has been extensively investigated in the existing health geography literature. For this reason, this study has tested a novel model whereby spatial, quantitative and qualitative data has been triangulated to give an alternative explanation to understand and improve health care accessibility. Particular attention is hereby divided to explain the difference between measured and perceived accessibility by making use of qualitative methodology. This difference has been explored through the lived experiences of female heads of households in Malawi, whereby the role of geographical factors, individual context and their mutual influence on health care access has been identified. The attention has been divided to female heads to identify whether they are an effective target group for Malawian health care policy makers to improve health care accessibility, since they have been a relatively unexplored population group in the Malawian society. This study has revealed that specific targeting of female heads is not required, however a more integrated approach, whereby both the supply- and demand side of the health care system are addressed in parallel by both governmental and collective action initiatives, will be of value to improve the Malawian health care environment. Besides the insight this study provides into the lived experiences of female heads in Malawi, does it also provides some recommendation for Malawian health care policy makers.

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List of abbreviations

AHO	African Health Observatory
CHAM	Christian Health Association of Malawi
CIA	Central Intelligence Agency
DHO	District Health Office(r)
FGD	Focus Group Discussion
FHH	Female headed household
GIS	Geographical Information Systems
HCP	Health care provider
HSA	Health Surveillance Assistant
IMF	International Monetary Fund
MA	Medical Assistant
MHH	Male headed household
MoH	Ministry of Health
NGO	Non-Governmental Organisation
NSO	National Statistical Office
SDG	Sustainable Development Goal
TA	Traditional Authority
TBA	Traditional Birth Attendant
UNDP	United Nations Development Programme
UNICEF	United Nations International Children's Emergency Fund
USAID	United States Agency for International Development
WHO	World Health Organisation

Chapter 1: Introduction

"Others failed to get medicine, because of the distance. They just stay there. Maybe seek traditional medicine. Or they will die before they reach this facility." – Medical Assistant, Chimembe Health Centre, Blantyre District, Malawi.

This quote illustrates the daily state of affairs for health care users in rural settings of Malawi, where these rural parts are far from close in achieving sustainable development goal (SDG) number three. 193 countries have committed themselves at this objective, which aims to "ensure healthy lives and promote well-being for all at all ages" (United Nations, 2015). One of the targets of this goal states "achieve universal health coverage, including financial risk protection, access to quality essential health-care services and access to safe, effective, quality and affordable essential medicines and vaccines for all". (United Nations, 2015, p. 18). The latter of this target, the concept of (equitable) access health care services, has been an extensively investigated concept in the academic medical and health geography literature. Over the decades various understanding and assessments of health care accessibility have evolved, which highlights the ambiguity and complexity of the concept. Although the right for everyone to have access to health care is incorporated in several international policy documents – the Universal Declaration of Human Rights (United Nations, 1948) and Alma Ata Declaration (World Health Organization, 1978a) -, ensuring that everyone truly has good accessibility to health services remains a challenge.

Low-income countries reveal most challenges to ensure good health care accessibility for all as has been highlighted by the Healthcare Access and Quality Index of 2016 (GBD 2016 Healthcare Acces and Quality Collaborators, 2018). With this study, I want to unravel which issues are at stake to ensure health care access for all in a low-income country context. I have chosen to focus hereby on Malawi, because Malawi is one of the poorest countries in the world and facing extremely bad health care indicators. In 2000, it obtained the 185/191 position in overall health system performance (World Health Organization, 2000). Considering this information, I believe Malawi constructs an interesting case study, because an extensive amount of progress needs to be made within this country to achieve the universal targets of SDG number three.

Then, another issue is regularly at stake considering health care access. Certain scholars have already identified that access to health care services is regularly not equitable in developing

countries, whereby the most vulnerable and marginalized population groups have to deal with numerous additional issues than less vulnerable population groups (London, 2007; Trani et al., 2010; Swartz et al., 2011; Braathen et al., 2016). One of those groups being identified as marginalized in certain Sub-Saharan Africa countries is the subgroup of female heads of households (FHH) (Onah & Govender, 2014; Masanyiwa et al., 2015). I have identified the number of studies about the situation of FHHs in the Malawian context is, however, extremely limited. This sparked my interest to study the accessibility to health care services of this specific group, since their voices have been left out in the assessment and development of the wider Malawian health care environment. Since some scholars reason that improved access for the most vulnerable population groups simultaneously addresses the existing issues for less vulnerable population groups, it seemed relevant to identify whether this applies for the specific group of FHHs (Peters et al., 2008; Schneider et al., 2013). My intention in this study has been to identify whether the voices of FHHs are of value for the Malawian health care environment and for policy makers to construct most effective and inclusive solutions to enhance accessibility to health care for all. Moreover, at the same time, the analysis of this study aims to contribute to the existing gap in the academic literature upon the understanding of the concept of female headship in the Malawian context. As well as, more generally, the limited academic knowledge of the lived experiences of FHHs regarding health care accessibility in developing countries.

Accessibility to health care is a concept which can be assessed and understand in various ways when one reads the elaborate amount of existing academic literature upon this topic. Therefore, I felt it would be of use to combine certain methods of analysis to test whether a more constructive explanation to improve accessibility for all could be achieved. Hereby, I have paid particular attention to the divergence between measured and perceived accessibility, whereby measured access is explained by distance and GPS-coordinates and perceived access by perceptions and experiences. I have tried to unravel and understand this divergence in health care accessibility by exploring the role of geographical factors, individual context and their mutual influence on health care access for FHHs. By making use of a novel model including triangulation of quantitative and qualitative data methods I have aimed to test this more constructive explanation of health care accessibility. Spatial and quantitative survey data from an earlier study – the EquitAble project[1] - has been used to identify the Malawian study sites

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[1] A SINTEF project, more information at https://www.sintef.no/en/projects/equitable/

where this divergence of measured and perceived access exists. In addition, I have used qualitative data methodology; both interviews and focus group discussions (FGD) in combination with feminist GIS, to further explore the lived experiences of geographical factors and individual context by FHHs to explain the evident difference between measured and perceived access. This adds interesting data to the existing academic health geography literature, since most data is based on self-reported survey data. Hereby, the instrument of feminist GIS is used, since this proposes to allow the inclusion of regularly unheard voices into spatial decision-making and development process, such as FHHs (Sieber, 2004; Elwood, 2006b; Dunn, 2007). Overall, the intended outcome of this model has been to enhance planning and policy instruments by uncovering and exploring mismatches between perceived and measured accessibility in order to achieve higher levels of accessibility to health care services for all. As well as, to contribute to the academic literature by introducing an alternative assessment of health care accessibility in developing country contexts.

Combining all of the above, this study has been developed to provide a contribution to the existing health geography literature upon the understanding and analysis of accessibility to health care services in a developing country context to achieve equitable health care for all. The focus will be an assessment of the lived experiences of geographical factors and individual context by FHHs to explain the difference between perceived and measured access to health care services in Malawi. Corresponding to that, the study's main research question is: *What is the role of geographical factors and individual context in determining the lived experiences of access to health care services for female heads of households in the case study of Malawi, by making use of feminist GIS?* To answer my research question in a valid and reliable manner, I developed some specific sub questions:

1. How is the concept of female heads of households understood and put into practice in the Malawian health care environment?
2. Which geographical and individual factors explain the difference between perceived access and measured accessibility to health care for female heads of households?
3. What could be the impact of including the voice of female heads of household into spatial development processes?

A qualitative case study research design has been adopted to explore the role of geographical factors and individual context in the lived experiences of health care accessibility. Hereby, the

scope of the study has been narrowed down to two study sites to enable an in-depth comprehension of the causal factors. Two case study sites have been identified based on a quantitative assessment; Chimembe and Chitekesa. The main research participants in this qualitative data collection have been FHHs, since FHHs are hardly part of the health geography academic discipline, as well as limitedly explored in the Malawian context. Furthermore, the perceptions of a variety of health care workers are included to get a more holistic insight of the understanding of the concept of FHHs and the challenges they face regarding health care access. The responses of the participants have been presented in a detailed and narrative manner, since one of the intentions of this study has been to create a platform for the regularly unheard voices of FHHs. Furthermore, this illustrative way of presenting the outcomes enhances the reader to thoroughly capture senses of the lived and individual realities of the participants.

This paper continues, chapter 2, with a critical review of the existing (feminist) geography and health literature, the concept of accessibility to health care services and of the specific focus upon female heads of households. Afterwards, I describe more thoroughly my research design, the innovative methodology of triangulation and data collection during my fieldwork period in Malawi in chapter 3. Then, chapter 4 sketches the study's context by describing the selected case study sites and the Malawian health care environment. Next, the outcomes of the qualitative data collection and contributions to the existing academic literature are presented in three different chapters; chapter 5 addresses the role of female heads in the Malawian health care environment. Chapter 6 describes the role of geographical factors and individual context in explaining the divergence between measured and perceived access. Chapter 7 highlights the impact of involving the voice of female heads into spatial development and planning. Lastly, chapter 8 provides a conclusion, including some policy recommendations and suggestions for future research.

Chapter 2: Theoretical Framework

This chapter gives an insight into the wide scope of existing theories and approaches in the academic health literature, which are of relevance to understand the adopted approach of this study. These concepts and theories help to comprehend my interest to explore health care accessibility for female headed households in the context of Malawi. This chapter, aims to provide an understanding of how certain concepts and theories have been operationalised and comprehended in the study, but also how these concepts are connected to each other. Moreover, this chapter aims to provide an insight in what information is missing in the existing scope of literature and an explanation of how this study aims to contribute to partly address those gaps.

First of all, the trends and developments of the geography and medical/health geography discipline have been drafted, which gives an understanding of health care accessibility. Next, the concept of female headship has been operationalised through the introduction of several different understandings. And lastly, a conceptual framework has been provided, which gives an insight in how I have used, comprehended and connected the key concepts of this study.

2.1 Geography and health

Similar to other disciplines, the field of geography has been through extensive developments whereby different elements of the academic scope have been emphasized or were in and out of fashion. These developments of a discipline are essential for the evolvement of knowledge and empirical evidence (Kuhn, 1962; Lakatos, 1970). Since the early 1990's, new study approaches and focuses emerged, such as the sub discipline of medical geography.

Of origin the focus of medical geography has been the interlinkages between biomedical phenomena and spatial circumstances, which indicates its relatedness to epidemiology[2] (Eyles & Woods, 1983; Mayer & Meade, 1994). Next to this, an unique focus of medical geography has been the investigation of certain aspects of the health care environment, such as accessibility, utilisation, satisfaction and location of services (Litva & Eyles, 1995). This focus has resulted in an increased amount of studies exploring service provision and health seeking behavioural patterns by making use of modelling and spatial analysis techniques in combination with geographical instruments (e.g. Joseph & Bantock, 1982; Joseph & Phillips, 1984; Halseth & Rosenberg, 1988; Ross et al., 1994).

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[2] Epidemiology is the study of distribution of diseases over time and space (Gatrell & Elliott, 2002)

However, this specific focus also contributed to a debate in the early 90's about the validity of solely applying a quantitative methodological approach to study the geography of health care. This debate inspired certain scholars to adopt a different perspective, and as a consequence, new approaches emerged; inspired by social and constructionist theory and the involvement of qualitative methodologies (e.g. Eyles & Woods, 1983; Baxter J. et al., 1992; Kearns & Joseph, 1992). This shift, from positivist medical geography based on structural functionalist theory (Durkheim, 1964) towards approaches being inspired by conflict theory and symbolic interactionism, became more evident in the academic health literature (Litva & Eyles, 1995). In this novel symbolic interactionist approach, the individual is at the centre of attention whereby subjective perceptions and meanings of social reality are created and explored (Blumer, 1962; Mead, 1962). This approach may be best explored through qualitative methodology according to Mitchell (2001) or, as certain scholars suggested, by moving away from methodological dualism of qualitative and quantitative approaches (New & Senior, 1991; Rosenberg, 1997). In line with this reasoning, this study has adopted methodological triangulation of quantitative and qualitative research.

Moreover, also in the early 90s, the role of place in influencing health care experiences of individuals gained increased attention (Macintyre et al., 2002). For instance, some scholars suggested that advancements of public health may be obtained by concentrating on the role of place and its local, social and physical dimensions (Macintyre et al., 1993). On the other hand, other scholars emphasized the relevance of focusing on the individual instead of place (Sloggett & Joshi, 1994). Consequently, various studies have been undertaken to discover whether the compositional effects of the individual or the contextual effects of place have been primarily of influence in health care experiences (e.g. Diez-Roux, 1998; Waitzman & Smith, 1998; Pickett K. & Pearl, 2001; Cummins et al., 2007). Hereby, Rosenberg (1998) emphasizes the essence for more research which questions the role of geographical factors in relation to individual circumstances. These studies have uncovered a diversified outcome whereby the reciprocal and mutual strengthening interrelation between place and people should be recognised:

"in which rather than there being one single, universal 'area effect on health' there appear to be some area effects on some health outcomes, in some population groups, and in some types of areas." (Macintyre et al., 2002, p. 128).

Macintyre (1997) proposed three kinds of explanations for the variety in health experiences: contextual, compositional and collective. Whereby, i) contextual explanations focus on possibility structures existing in the social, local and physical circumstances, ii) compositional explanations concentrate on the features of individuals centralized in specific places and iii) collective is attentive to historical and socio-cultural characteristics of the wider community or group individuals belong to, such as values, norms, religion, social capital. As a reaction, Forrest & Kearns (1999) concretely suggest in order to achieve most effective solutions one should adopt a comprehensive approach which addresses both the contextual, compositional and collective explanations.

The focus on the role of place, the implementation of qualitative methodology as well as linking health care to social theory has contributed to the development of a new school of thought in the medical geography discourse, whereby some scholars recognise themselves as (new) health geographers (Rosenberg, 1998). (e.g. Kearns & Joseph, 1992; Kearns, 1993; Dorn & Laws, 1994; Dyck & Kearns, 1995; Litva & Eyles, 1995; Kearns & Gesler, 1998; Rosenberg, 1998; Kearns & Moon, 2002). The concept of (equitable) access to health care services has been an extensively investigated concept in the medical and health geography literature. Various understandings and assessments of health care accessibility have evolved over decades through different approach, which highlights the ambiguity and complexity of the concept. The next section will further operationalise the concept of accessibility to health care services.

2.2 Accessibility to health care services

The right for everyone to have access to health care is incorporated in several international policy documents, such as the Universal Declaration of Human Rights (United Nations, 1948), the Alma Ata Declaration (World Health Organization, 1978a) and 2030 Agenda for Sustainable Development (United Nations, 2015). However, ensuring that everyone truly has the right is difficult in particular areas, countries and contexts. The delivery of equitable health care services for all is commonly perceived as complex for the existing health care systems (e.g. Van Doorslaer et al., 2006; Levesque et al., 2012).

The discourse upon accessibility encompasses multiple descriptions and different focusses. For instance, Fox (1972) and Aday & Andersen (1974) describes access as whether people who in need of care can enter and/or utilise the health care system when they are in need of care. Gulliford et al. (2002) summarise this as 'having access', whereby primarily service availability

is identified. In addition, they underline access should also be understood as 'gaining access', which describes the initiative to step into the process of utilisation. Other scholars share this understanding by looking at access as part of the bigger picture, whereby elements that influence the entry or use of health care services are considered as well, such as geographical availability or economic costs (e.g.Donabedian, 1972; Shengelia et al., 2003). Penchansky & Thomas (1981, p. 128) further developed this notion by comprehending access as the "degree of fit" between the clients and the system. In this understanding they distinguish five dimensions of access to enhance the operationality of the concept beyond service availability, whereby also personal, financial and organisational obstacles to health care utilisation are assessed: 1) availability of health facilities, services and staff, 2) accessibility of health care linked to patients' locations and transportation options, 3) accommodation in quality, timeliness and appropriateness of services, 4) affordability of services in relation to users' possibility to pay and 5) acceptability regarding patient-provider relations (Penchansky & Thomas, 1981; Ravindran, 2012; Evans et al., 2013).

Then, there exists another comprehension of access by assessing it through health outcomes, because whenever health conditions are improved the need for access to health care will be reduced (Rogers et al., 1999; Gulliford et al., 2002). Gold (1998) explains that today's changing market and public policy interests should be taken into account next to the traditional comprehensions of enabling access to fully cover the measurement of access. In the current context, the effectiveness of health care services, received from organisational structures, as well as the value of services should be evaluated, e.g. based on costs, negotiation of care and outcomes.

Lastly, Fortney et al. (2011) have provided a novel insight to the discourse of health care accessibility, whereby they emphasize the importance of taking into account the latest developments of the digital era into the conceptualisation of health care accessibility. They claim that advancements in digital access could be a solution to the existing cultural, geographical or financial obstacles to health care access. Table 1 indicates which accessibility issues and opportunities have been recognised, whereby including the role of digital means. This figure also takes into account the earlier defined compositional, contextual and collective characteristics of Macintyre (1997). In addition, DeRenzi et al. (2011) diversify specifically their intention to the role of mHealth in enhancing the efficiency and quality of health care in low- and middle income countries, whereby mHealth is understood as digital tools in the health care environment based on mobile phones.

Table 1. Determinants of access sorted by compositional, contextual and collective characteristics (Fortney et al., 2011)

Access Dimension	Individual Characteristics	Community Characteristics	Health System Characteristics	Provider Characteristics
Geographic	Residential location Employment location Available modes of transportation	Physical geography such as terrain, and weather Built environment such as road quality, traffic conditions and public transportation	Service locations Outreach programs Telemedicine services Contracting with non-VA providers	Willingness to practice in remote locations Circuit riding
Temporal	Opportunity cost of time (depends on responsibilities at work and home)	Work hour flexibility of local employers Availability of childcare services	Hours of operation Wait-times	Stays on appointment schedule
Financial	Household annual income Service-connection Private insurance status	Health benefits offered by insurance companies and public programs	Eligibility policies Coinsurance rate Charges	Orders unnecessary tests Conducts unnecessary procedures Prescribes generic medications
Cultural	Age Race and ethnicity Marital status Health literacy Coping style Religiosity and spirituality Social support Community embeddedness	Social norms Public stigma	Provision of services tailored to special populations (e.g., VA women's clinics)	Cultural competency Multilingual capabilities Communication style Provider stigma
Digital	Availability and sophistication of personal communication technologies Computer literacy	Broadband availability Satellite coverage Public use computers	Synchronous patient-to-provider communication systems Asynchronous digital patient-to-provider communication systems Digital peer-to-peer communications Computer health applications	Computer literacy Willingness to communicate digitally Receives reimbursement or workload credit for encounterless digital communications

Then, in operationalizing accessibility of health care system, it is of importance to take into account how a health care system may be understood. Various scholars understand the health care system as something plural, composed of various systems of medicine - traditional, modern/Western, religious, community, folk-, especially in developing countries, whereby individuals have the choice which type of care they desire to access (e.g. Stoner, 1986; Phillips, 1990). The next section expands briefly on the plurality of a health care system, which may be accurate to explore the health care system of Malawi.

2.2.1 Access to the health care system

The interrelatedness of traditional and modern health care systems remains a rather thinly investigated and poorly understood theme in the health care literature. In order to better understand why this remains poorly comprehended, the two systems are first shortly introduced.

The origin of traditional or indigenous medicine systems is immensely diverse. The systems evolved over time in different regions of the world, influenced by a variety of religions, cultures and levels of socio-economic development. This has resulted in a spectrum of different visions to appropriate practices, treatments and diagnoses (Hyma & Ramesh, 1994). In the 19th century, Western-based health care systems were introduced in low- and middle income countries. These systems obtained in some regions a superior function and became regarded as the norm, whereby traditional systems were pushed into a supplementary role. Therefore, the World Health Organization (WHO) has adopted multiple resolutions which emphasized complementarity of traditional and modern health care systems. Those resolutions motived many developing countries to integrate useful elements and practitioners from traditional medicine systems into modern and national health systems (WHO1978b). As a result, medical pluralism became regarded as a positive contribution to effective health care outcomes in many developing countries, because of an increase in availability, more affordable care for deprived population groups and availability of substitutes whenever there was a lack of modern drugs (Akerele, 1987).

Some scholars reveal that national healthcare policies in modernizing the regular health care system contribute as well to an increase in the operations of the traditional system (Hyma & Ramesh, 1994). Furthermore, a low density of Western kind of health care facilities may contribute that more health care users will seek alternative and thereby reach out to traditional health care (Stock, 1987). The WHO reveals that government commitment to traditional medicine plays a crucial role for successful integration of modern and traditional health care (Hyma & Ramesh, 1994).

The diversity of interpretations of the concept of access, as well as different understandings of which health care system is or should be accessed, highlights the multidimensionality of accessibility. It also outlines that there exist no simple, universal way to analyse the concept of access. This has led to the implementation of different epistemological approaches; some scholars have adopted positivist perspectives to assess health care accessibility by examining access through several population features by implementing a quantitative approach, such as capturing physical distances (Gatrell & Elliott, 2002). This may also be understood as 'measured access'. While others operate from a social-interactionist epistemology by making use of qualitative data to investigate the individual experiences thoroughly in order make sense of accessibility (e.g. Aday & Andersen, 1974; Stock, 1987). The next sections will further operationalise the concept of measured and perceived accessibility, whereby is started with measured access.

2.2.2 Measured access

Some medical geography scholars have been using quantitative data assessments to research accessibility to health care services, such as Geographical Information Systems (GIS). GIS is a computer system which allows the researcher to rapidly integrate different geographical datasets by portraying them as layers in one map. This enables one to analyse and manage the geographical data, whereby a graphic visualization in the form of a geographical map is one of the possible outcomes (Heywoord et al., 1998). This type of spatial analysis and management assists in recognising possible patterns in the data as well as to uncover complex connections among different data sets. GIS was originally created for physical geographic use, however various scholars have proven its value and suitability to analyse physical access to health care services (e.g. Twigg, 1990; Gatrell & Loytonen, 1998; Parker & Campbell, 1998; Cromley & McLafferty, 2002; Gatrell & Elliott, 2002; Luther et al., 2003; Graves, 2008). Hereby, the physical closeness of a facility was measured, and indicated on a map, commonly expressed in distance per kilometres or miles (Joseph & Phillips, 1984). Besides distance, also other geographical factors which influence the measured access can be taken into account when using GIS, such as elevation in terrain.

The influence of spatial factors on health care access, behaviour and provision have been highly reported topics (e.g. Shannon et al., 1969; Shannon & Defer, 1974; Pyle, 1979). Especially for rural areas in developing countries the role of distance is meaningful to understand health care accessibility. In these countries, patients regularly travel the distances by foot, which affects their quickness and ease of utilising health care services (Stock, 1987). Therefore, according to Buor (2003), the impact of distance on access to health care services can be more adequately analysed by assessing travel times and transportation costs. His research reveals that especially a longer traveling time hinders utilisation of health care services, with even a bigger influence during farming season or festive days. Buor's (2003) findings corresponds with the concept of distance decay, which means that distance differs inversely with the level of utilisation (Olsson, 1965; Okafor, 1990; Müller et al., 1998).

On the other hand, Stock (1987) challenges the use of distance decay. He highlights that quality of service determines the distance decay, since a higher quality of service attracts patient from a larger physical distance. Also Girt (1973) indicates that physical distance can have both positive as negative impacts upon access to health care services, because other factors are as well of influence, such as the type of disease or the level of wealth of the patient.

Girt (1973) and Stock (1987) highlighted the influence of other factors in assessing health care accessibility, besides measured access observed in distance or time. Their different perceptions of the role of distance in health care accessibility, seem to indicate that the objective measurement of distance to determine access to health care services is not necessarily sufficient. The subjective perceptions of distance should also be taken into account for a comprehensive understanding of accessibility, which may also be understood as 'perceived access' in this study. The concept of perceived accessibility is further explained in the next section.

2.2.3 Perceived access

The perceived access to health care services encompasses a broader range of factors when comparing it to measured access. Besides, taking into account geographical factors as obstacles to health care, such as distance, type of terrain and roads conditions, perceived access also involves the influence of the individual obstacles. In order to better understand the role individual context and/or geographical factors may play in health care accessibility, the concept of supply- and demand-side of accessibility has been operationalised.

The supply- and demand side of accessibility to health care have received considerable attention by health geography researchers. Woods et al. (2005) revealed, in their critical interpretive review on the supply side of access to health care, four major themes – whereof some related to geographical factors - which may hamper someone's access to health care:

1) quality of supply; the need of health care provision to be effective and of good quality,
2) lack of capacity; insufficient provision of services to meet the needs of the population,
3) certain socio-economic groups or geographical locations face uneven service provision
4) geographical disadvantages; inadequate access due to residing in isolated communities.

Furthermore, Gatrell & Elliott (2002) point out that lack of essential facilities – safe water, nutrition, sanitation-, insufficient trained staff and accessibility of vital drugs are recognised as structural issues in health care access. Then, Ensor & Cooper (2004) have created a function being composed out of technology, prices, management efficiency and availability factors to allow easier identification of the issues evident at the supply side of health care.

The majority of policy amendments focus on resolving these kinds of geographical or supply side barriers, however investigating the role of the individual health care user in identifying illness and requirements to receive accurate health care is of equal importance. According to Mechanic (1978), 'utilisation of health care' is composed out of a balance between an

individual's beliefs, attitudes, previous experiences with health care and their evaluation of their needs. The health geography literature shows a broad spectrum of factors that might influence the level of utilisation of health care facilities, such as transportation availability, social distance, poverty/wealth status, level of education, service costs, type of illness, facility characteristics and the quality of care (Grossman, 1975; Joseph & Phillips, 1984; Dutton, 1986; Stock, 1987). Hereby, social distance may be comprehended as the relationship between the health care provider and the health care user, whereby a lower social distance is often felt at traditional medicine practitioners in developing countries (Gesler & Meade, 1988; Buor, 2003).

An extensive range of models have been developed to analyse and understand utilisation behaviour of health care users. Andersen & Newman (1973) came up with the first theoretical framework - a behavioural model - to examine predisposing characteristics of the health facilities, enabling resources as medical technology and treatment, and individual need factors to explain utilisation of health care services. Nevertheless, certain restrictive factors as travel time, transportation costs, waiting time and characteristics of providers were not included in this model. As a response, Aday & Andersen (1974), Dutton (1986) and Andersen (1995) developed novel frameworks and models upon utilisation and satisfaction of health care, which involved those restrictive factors. Then, Millman (1993) developed a model which reflected the raising concerns about efficiency and effectiveness of access by assessing outcomes-related measures of accessibility. Furthermore, the human capital model developed by Grossman (2000) is an eminent model regarding demand of health care, which analyses the impact of consumption decision-making and individual investments to health care. And lastly, Ensor & Cooper (2004) and O'Donnell (2007) added several factors to explain the demand side of the health care system: 1. community factors (e.g. culture, religion), 2. individual/household factors (e.g. age, income, sex, education, knowledge of medical treatment) and 3. reasons to abandon the use of health care services (e.g. gender roles, lack of autonomy for women, lack of knowledge about the severity of illness, preference for traditional health care).

Then, there are also scholars who argue the supply- and demand-side of health care services are interrelated and should be examined together. For instance, Shengelia et al. (2003) developed a framework to indicate efficient health coverage by evaluating supply side elements (e.g. quality of care, resource availability) and demand side elements together (e.g. financial affordability, physical accessibility, cultural acceptability). Also Gold (1998) emphasised the need to be attentive to the impact of bigger financial plans and related health systems, as well the influence of the negotiating role of individuals in using health systems.

According to Abel & Frohlich (2012) the combined and simultaneous examination of the supply- and demand side could be connected to Giddens' (1979) structuration theory. The duality of agency and structure is identified in this structurationism; one recognises individual actions and practices establish and recreate social structures to a certain extent, however, social structures frame individual actions and practices as well (Gatrell & Elliott, 2002). Hereby, in addressing the supply side, particular bigger structures of society should be in place to enable equal access to health care services; e.g. technology, available medications, health facility locations. On the other hand, by assessing the demand side, one is taking into account the agency of the individual to act upon their access health care facilities. Agency can be understood as "the capacity of persons to transform existing states of affairs" (Harvey, 2002, p. 173), whereby it generates social action that helps people to enhance their means and acquire their rights. Hence, the dualism of the societal structures and the agency of the individual can enable and construct equitable and universal access to health care.

This section has given an insight into perceived obstacles of health care accessibility, which may depend on the individual context, may be caused by structural and collective factors or may occur as the result of an interplay of contextual and collective factors. In order to develop effective and equitable health care policies, it is valuable to understand which factors shape the obstacles in health care accessibility in order to address those accurately. Furthermore, an understanding of equitable access is of essence, which is further operationalised in the next section.

2.2.4 Equitable access

An essential concept of access to health care is equity, which can be translated into social justice of the health care system (Rawls, 1971). In the health care discourse, equity and health outcomes are extensively investigated as it is signified as a key element for successful health advancements (Wilkinson, 1996; Rifkin, 2003). A broadly documented definition of equity in health care access regards fairness in good quality health care distribution, access and utilisation for different population groups and individuals with personal health needs (Thaddeus & Maine, 1994; Gulliford et al., 2002; MacLachlan et al., 2011). According to Gatrell & Elliott (2002) there has been less consideration for studying equitable access and then especially the relative provision of health care. Or in other words, to what extent vulnerable groups experience more struggles than wealthier groups regarding their accessibility. They emphasize the need for

qualitative explorations of the relative provision of health care, since the data that has been established is mainly based on self-reported survey data.

According to Andersen (1995) inequitable access to medical care is regulated by certain health beliefs, social structures (e.g. ethnicity) and/or amount of resources (e.g. income). Maine (1993) developed the 'three delays'-model to show the influence of factors as community roles, values, resources and norms may have on a woman's decision-making to make use or delay making use of health care services (see figure 1). This model has been confirmed by the academic review of Dixon-Woods et al. (2006), who indicated that vulnerable population groups more easily downplay 'health warning signs', due to fear of being blamed by health providers. Or as an effect of normalisation of symptoms due to their socio-economically disadvantaged community or negative conceptualisation of health (Cornwell, 1984; Calnan, 1987; Gardner & Chapple, 1999; Hunt et al., 2001; Tod et al., 2001; Richards et al., 2002).

Figure 1. Three delays model of Maine
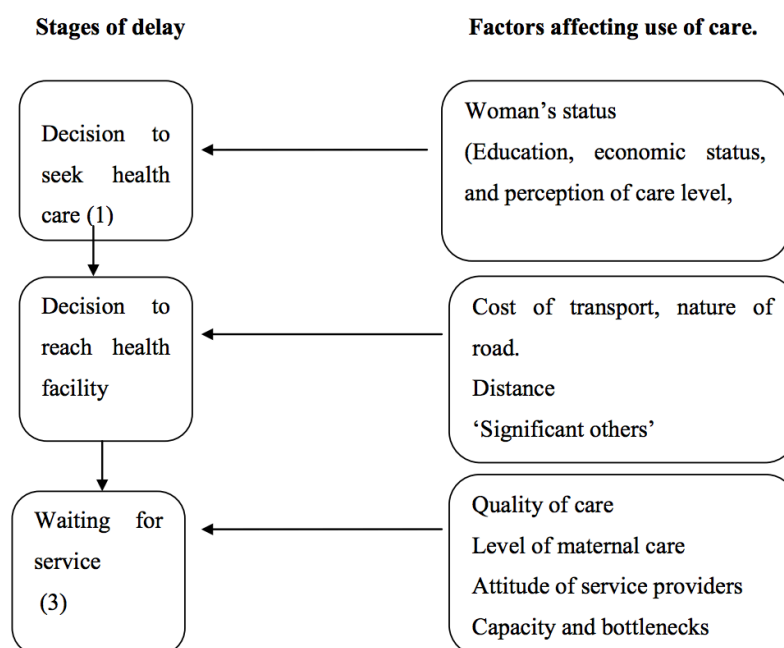
Then researchers have recognised that especially low-income countries have a challenge to provide equitable access. In these countries, most vulnerable and marginalised population groups have to deal with numerous issues related to affordability, availability, accessibility, acceptability and appropriateness of health care services (London, 2007; Swartz & MacLachlan, 2009; Trani et al., 2010; Braathen et al., 2016). For instance, the level of poverty a patient experiences determines access to and utilisation of (preventative) health care services extensively (Delanyo et al., 1992; Ensor & San, 1996; Buor, 2003; Collins, 2003; Dixon-Woods et al., 2006). Furthermore, the level of education has an influence on access to health care services, whereby particularly education of women enlarges the utilisation of health care

services. (Swenson et al., 1993; Raghupathy, 1996; International Labour Organisation, 2000). Moreover, gender and ownership of decision-making within the household seem to constrain accessibility in certain circumstances (Aboagye, 2010). The outcomes of Srivastava & McGuire (2015) confirm the influence of education, gender, health status, marital status, urban/rural settings, employment and insurance on health care seeking behaviour in low income countries.

Next to this, certain scholars tried to uncover if these socioeconomic factors and the role of age and gender were more influential than the distance factor. In Buor's (2003) study of Ghana distance has been identified as the most influential factor in affecting the level of health care utilisation, followed by level of income of the patient and service costs at the health facility. And a report of the World Bank (1994) reveals that women have sincere issues in utilising and accessing health care, even when health centres are quite nearby, because of the distance, deteriorated road conditions and lack of transportation. On the other hand, other scholars, as Weiss et al. (1971) state that distance is not as relevant as other factors. It should be regarded more of a proxy for other factors (Shannon et al., 1969) or as neglected once there is serious illness (Mering et al., 1976). The importance of distance upon utilisation behaviour may thus be considered as relative and dependent on the specific context. With this study, I aim to identify in a novel way what the relative importance of distance is for the case of FHHs in Malawi, by exploring the divergence between measured accessibility (influence of distance) and perceived accessibility (influence of other socioeconomic factors).

In order to achieve equity in access to health care abundant efforts are required by the individual health care user. The studies of both Rifkin (2003) and Macfarlane et al. (2000) underline this importance of connecting health equity, community empowerment and health outcomes, by stating the importance to include the users of health care to negotiate their access, express their concerns and demand appropriate care to reach effective health outcomes. According to Dyck (2003) a space had emerged for this more inclusive health geography discipline by involving non-spatial factors, especially in relation to demographics and socio-economic characteristics of gendered and marginalised groups. Furthermore, some scholars reason that improved health care access for the most vulnerable population groups simultaneously addresses the existing issues for less vulnerable population groups (Peters et al., 2008; Schneider et al., 2013). These specific developments have opened up possibilities to include the individual, perhaps vulnerable, health care user more extensively in order to achieve equitable health care. The next

section will further introduce the role of the individual in achieving health care accessibility, as well as shed light on the rise of gendered approaches within health geography.

2.3 Feminist health geography

Within the discipline of health geography, Gatrell & Elliott (2002) signified a humanist turn, influenced by sociology and phenomenology, which aims to create a sense of the lived experiences of health. This approach seems of interest, since it allows one to construct a social understanding of the perceptions of the individual about their everyday realities towards their access to health care services. An influence of social constructionism is evident in this humanist turn, which claims to deal with an understanding of society and developing knowledge based on this understanding by highlighting the importance of culture, politics and societal context. Also, the feminist health geographical approach has an eye for the political and societal context of the research participant. Since the early 1990's, this new sub discipline emerged. In those years, a broad range of feminist researchers from multiple disciplines tried to understand the complicatedness of the subordination of women in the academics. In the same years, an extensive amount of criticism was expressed upon the regular geographical approaches (Connelly et al., 2000). Next to this, the interest and attention for the gendered nature of health care and spatial diversification of social and gendered relationships has been emerging.

A feminist geography approach challenges masculine foundations of geographical science, such as "value-free" and "objective", by proposing there exists more than one "truth" and by focusing on the individual experiences through qualitative methodology (Cope, 2002). According to Nelson & Seager (2005) the current scope of feminist geography is highly diverse and complex, which makes it challenging to generalize a particular approach. Nonetheless, it seems evident to identify two major elements of feminist geography; first of all, the inclusion of gender into geographical work to improve the full understanding of all human experiences, as well as their perceptions of places. Cope (2002) explains that gender has an influence on all lived experiences - consisting of all interactions between people, places and opportunities that may (not) be there – and is therefore of relevance to be taken into account. A feminist research approach seeks to give a voice to marginalized groups or individuals – for instance female headed households – within broader social spheres and political economies.

The second element of feminist geography encompasses the involvement of close scrutiny and (re)politicisation of the entire research process by the researcher. This element narrowly tightens feminist geography to political commitments and movements. It encourages

critical reflexivity upon validity of results through examining power relations, the various forms of knowledge embedded in the research and the contextual factors shaping the geographical research process (Moss, 2002). A feminist researcher should therefore elaborately describe the choices made which have been of influence on the research design (Moss, 1995).

In the field of health geography, the number of feminist approaches have been emerging from 2000's and onwards, however the scope remains overall quite limited (e.g. Dyck et al., 2001; Gatrell & Elliott, 2002). Feminist health geography has the potential to focus on specific female health (care) requirements. When such a female focus has been adopted, Dyck et al. (2001) highlights the critical need of comprehending gender as being socially and culturally constructed. Gender-related understandings and identities are considered as fluid, dependent on contextual factors, such as time and space, and as an integral aspect of our political economies and thus of influence of health care and well-being (Dyck et al., 2001). Furthermore, Dyck (2003) reveals the number of studies which focus on 'women' in health settings are increasing within the sub discipline, however studies which have embraced a complete feminist approach in researching health and its situatedness remain limited. Altogether, feminist geography and health geography are mixing and communicating increasingly, however it has not been grounded yet as a full-fledged sub discipline.

With this study, I hope to contribute to the further development of the feminist health geography discipline by embracing an extensive feminist health geographical approach. The individual lived realities of women, in specific FHHs, are at the centre of attention in this study, whereby I aimed to be attentive to power relations, contextual influences of Malawian society and variety of knowledges. Hereby, a post-structuralist notion has been embodied whereby the diversity among women and their approaches of accessing health care services is taken into account (Dyck et al., 2001). The next section will describe more elaborately the individual circumstances identified in the academic literature for FHHs and health care access in Malawi.

2.4 Individual circumstances in Malawi

2.4.1 Female headed households

A feminist health geographical approach is adopted in this study whereby there is aimed to include females voices into the study as well as being critical to hegemonic power or political dimensions. A specific focus is drafted at female headed households, which are regarded by certain scholars as a particular vulnerable population group or more likely to experience

vulnerability or poverty (Jackson, 1996; Buvinic & Gupta, 1997; Quisumbing et al., 2001; Medeiros & Costa, 2008). This discussion has been part of the more extensive discourse of 'feminization of poverty', which addresses the phenomenon of excessive higher rates of women in worldwide poverty indications (e.g. Pearce, 1978; Moghadam, 1997; Marcoux, 1998). It has been repeatedly mentioned that women have to endure the unequal percentage of 60-70% of the burden of poverty (e.g. United Nations Development Fund for Women, 1995; United Nations Development Programme, 1995; United Nations, 1996a).

Buvinic & Gupta (1997) elaborate upon three issues that identify a positive relation between poverty and female heads of households: i) FHHs have a larger non-worker to workers-ratio in the household, ii) FHHs have less access to high wages and economical assets than men as a result of gender discrimination and iii) households tasks regularly belong to the woman of the household, which causes pressure in time and mobility. GlenMaye (1998) highlights the issue of FHHs being unsuccessful to mobilise their capacities to foster change, which makes them a stigmatized group. Blackden & Bhanu (1999) explain that the majority of FHHs in Africa are divorced or widowed; those disruptive changes in living circumstances may result almost consequently in increased household instability and vulnerability to poverty. And, Graham (1996) explains:

"the number of female-headed households among the poor and the poorer sections
of society is increasing and ... they, as a group -- whether heterogeneous or not --
are more vulnerable and face more discrimination because they are poor and also
because they are man-less women on their own". (p. 3)

Hedman et al. (1996) and Rogan (2013) reason that a stricter delineation of the concept of headship leads towards a more appropriate notion of FHH being increasingly vulnerable for poverty. This highlights the importance of operationalising how the female headship may be understood.

In the academic literature, there exists an extensive discourse upon the definition of female headship or in others words female or women headed households. Multiple scholars recognise it is a challenging definition, since female heads are closely connected and defined by contextual and cultural factors, which underlines their heterogeneity (Fuwa, 2000; United Nations, 2010). The United Nations, however, made an attempt to streamline the concept somehow by describing it as: women who are "financially responsible for their families, key

decision makers and household managers, manage household economies on behalf of an absent male head or are the main economic contributors" (United Nations, 1996b, p. 32). In this comprehension three major components of headship have been distinguished by several scholars: headship by i) economic contribution, ii) possession of power or authority, and iii) demographic composition of the household (Rosenhouse, 1989; Handa, 1994, 1996; Fuwa, 2000; Budlender, 2003). A FHH defined by its demographic composition can be further divided into de jure and de facto headship (Chant, 1997; Fuwa, 2000). De jure FHHs are households where no male is residing permanently, which thus encompasses unmarried, windowed, divorced and separated women. Then, de facto FHHs are households were males are contributing to the household, however they are not physically present, for instance due to labour migration (Chant, 1997; Fuwa, 2000). Buvinic & Gupta (1997) advocate for using alternative terms to identify household structures more adequately in order to deal with the lack of a consensus upon a delineated definition; e.g. 'female-maintained', 'mother-centred', 'female-led', 'male absent'.

Despite the lack of consensus on a clear definition, the term FHH remains a practical proxy for a broad range of household structures whereby the main provider or main maintainer of the household is a woman, for instance for policy and program implementation intentions (Buvinic & Gupta, 1997). By using this proxy, some researchers have shown that FHH compass different demographic and socioeconomic features than male headed households (MHH), such as higher child dependency burden (e.g. Kossoudji & Mueller, 1983; Barros et al., 1997). Other scholars, such as Lloyd & Duffy (1995) and Moghadam (1997) have identified an increase of FHHs. Lloyd & Duffy (1995) indicated this increase by comparing both demographic survey and census data from 1970-1990 for both Asian, Latin-American and Sub-Sahara African countries. These two earlier outcomes seem to indicate that focusing on FHH as a target group could be of interest to efficiently improve policy making.

The number of targeted initiatives at FHHs specifically has increased since the 1980s, as a result of neoliberal efficiency strategies and the earlier explained emphasis of FHHs being more vulnerable to poverty (Chant, 2004). This rise in targeted projects is a result of the reasoning that the active communal role of most women brings along improvements in all aspects of life for both herself and others; children, elderly, house, family and the wider community, while this impact has not been noticed to the same extent for men (Hedman et al., 1996; Finne, 2001). Buvinic & Gupta (1997) also disclosed the effectiveness to target FHHs for poverty reduction

interventions, but with the condition that scrutiny is required, since not all female heads are instantly poor.

On the other hand, the efficiency of targeting FHH is questioned by other scholars (e.g. Blackden & Bhanu, 1999; Quisumbing et al., 2001; Chant, 2003, 2008). The specific targeting of FHH could cause a rise in the prevalence of FHH, because this may attract other household to label themselves as FHH to receive more benefits. This negative side-effect might be alleviated by including indicators as age and marital status, beyond simply self-reported female headship (Buvinic & Gupta, 1997). Furthermore, Chant argues the 'feminisation of poverty' generalises women's poverty and enhances superficial comparisons between female and male-headed households, whereby one eliminates to acknowledge that also women in male-headed households experience poverty:

"Persistent portrayals of the economic disadvantage of female-headed units not only misrepresent and devalue the enormous efforts made by female heads to overcome the problems they face on account of their gender, but also obliterate the meanings of female headship for women." (Chant, 2004).

For this reason, she suggests that efforts to poverty alleviation can be more efficient when unravelling the context specific elements of poverty and evaluating poverty among FHH's in light of the broader society.

This explains the logic why the case study of Malawi seems to make an interesting example; because there is little known about the understanding of female headship and the effectiveness of specific targeting in the particular context of Malawi. Only a few academic studies with a focus on Malawian FHHs exist (e.g. Green & Baden, 1994; Whiteside, 2000; African Development Fund, 2005; United Nations International Children's Emergency Fund [UNICEF], 2013). This limited number of studies might be a consequence of the fact that gender is not considered as an inherent Malawian concept, but rather as being derived from Western non-governmental organisations (NGO) and institutionalisation (Ntata & Biruk, 2009).

Both Chipande et al. (1986) and Whiteside (2000) have explored the position of FHHs in agricultural circumstances with as outcome that FHHs in (Southern) Malawi gain lower wages for their farm work than their male counterparts. More specifically, Phiri (1986) states that FHHs earn about 58% of the cash income of MHHs and are thus in general poorer. Then, United Nations (2010) statistics indicate the percentage of FHHs living in poverty in Malawi

(59%) is significantly higher than MHHs (51%). These results seem to reveal that FHHs in Malawi should be considered as a vulnerable population group, especially in comparison to MHHs.

The inclusion of FHHs in Malawian policy making has been limitedly researched. One study has applied the EquiFrame – a framework investigating the level of commitment within health care policies to certain vulnerable groups, including FHHs - revealed that FHHs were not mentioned at all in health care policies in Malawi (Mannan et al., 2011, p. 23; Schneider et al., 2013). This absence of FHHs in Malawian health care policy making may indicate a certain level of marginalisation. Perhaps the inclusion of their voices could inspire more effective and equitable implementations for the Malawian health care environment. For this reason, this study aims to shed light upon whether the voices of FHHs, a potential vulnerable group in Malawi, are of value for more effective health care policy making. Hereby, is taken into account that one should be attentive to capturing the variety of lived experiences of gender when performing gender-related research in a developing country context, instead of the taken for granted, regularly Western developed, definitions of gender (Scott, 1996). A useful method to include these voices in development processes of policy makers may be GIS, and then more specifically feminist GIS. This method is further discussed in chapter 3.2.

2.4.2 Health care accessibility in Malawi

The academic literature about accessibility to health care in Malawi is quite limited, however there exists more information from governmental and non-governmental institutions which have been incorporated in chapter 4 about the Study area. The existing literature mostly identifies certain barriers to access health care services, however concrete solutions to address these barriers remain largely unreported. Ustrup et al. (2014) have examined the impact of prices at health care facilities in relation to household incomes. This study uncovered that poverty plays a role in perceived accessibility and poorer households are less likely to visit a professional healthcare provider, because of the corresponding financial costs. The impact of financial costs on accessibility and level of attendance has been confirmed by Watson et al. (2016). Their study revealed that the implementation of fees at selected health facilities generated a decrease of 68% in the number of attendances. When the health facilities discharged the same fee, the attendance suddenly increased with 352%. The respondents of the study of Abiiro et al. (2014) stressed that they struggle to afford transportation costs to far-away public health centres, as well as to pay for medical services at closer by private facilities. Moreover, language has been regarded as an access barrier, since this might result in miscommunication

and a flawed diagnosis (Swartz et al., 2011). Behaviour of health personnel might also be of influence in accessing and utilising health care services, for instance due to a lack of respect, insults or non-compliance with working hours (Munthali et al., 2014). Also long distances and travel times, due to lack of transportation and insufficient drugs storage, were mentioned as a barrier to accessible health care for Malawians ((Abiiro et al., 2014). This has been confirmed by Kambala et al. (2011) who discovered during their focus groups in Chikhwawa district similar key problems; long distances and disrespectful health care providers. Additionally, lack of enough adequate health personnel and corruption among the health personnel was identified, whereby some of the staff misused the ambulance to sell drugs or beer at the border of Mozambique.

As a result of some of those issues, certain studies have uncovered an evident preference among some people for traditional medicine, because those services are often more proximately located or the health users have a higher leave of confidence in those services. Additionally, some people belief that prayers and religion cures them and as a consequence they do not utilise modern health facilities (Munthali et al., 2014).

The literature regarding accessibility for women remains narrow; there has been only a few study which focus on this specific group. Kumbani et al. (2012) investigated women's perceptions of perinatal care at a district hospital by using a qualitative approach. The results revealed that the participants were not critical towards the assistance they received and had low expectations of the services. In addition, Kambala et al. (2011) reveals that certain pregnant women rather use Traditional Birth Attendants (TBAs) than modern hospital, as a result of trust issues, higher costs and worse proximity. The number of studies focusing on FHHs and their access to health care services is non-existing in the Malawian context and even very limited in other developing country contexts, even though they have been identified as a marginalised group (e.g. Onah & Govender, 2014; Masanyiwa et al., 2015). For this reason, it seems of relevance to explore access to health care services for this specific population groups, since it will partly address the existing gap of academic knowledge upon the lived experiences of FHHs regarding health care accessibility in developing countries.

2.5 Conceptual framework
The previous sections have provided an extensive overview of the existing approaches, theories and manners of reasoning evident in the current feminist health geography literature and of

relevance for this study. None of those mentioned approaches has proven to be exhaustive. The multidimensionality of access indicates there exist no simple, universal way to assess or achieve access, because it depends on various different local health necessities, preferences, perspectives and cultural settings. Something which is evident in the literature, however not necessarily beneficial to effectively address the obstacles in accessing health care services. For this reason, I will combine the theories of measured and perceived accessibility to test whether a more constructive explanation to improve accessibility for all may be achieved. Hereby, I pay particular attention to the divergence between these two types of access. The difference between measured and perceived access will be further explored through being attentive to the role of geographical factors (distance, type of terrain, condition of roads, climate) and individual circumstances and experiences, in this study of FHHs. This exploration aims to contribute to a more advanced understanding of the variety of influential factors, as well as their impact level. The intention of this novel model, by uncovering and exploring mismatches between perceived and measured accessibility, is to enhance planning and policy instruments in their effectiveness to achieve higher levels of accessibility to health care services for all. As well as, to contribute to the academic literature by introducing an alternative assessment of health care accessibility in developing country contexts.

Furthermore, the study focuses on a subgroup of health users, FHHs, which have been scarcely researched in the current health geography literature. Therefore, specific attention is divided to discover if the academic concept of FHH resonates with the lived experiences of Malawians. As well as how this concept is comprehended within Malawian society and whether the voices of FHHs may be of value in developing effective and equitable health care policy decision-making and implementation. Accordingly, the outcomes of this study may contribute to the existing gap in the academic literature upon the understanding of the concept of female headship in the Malawian context. As well as, more generally, the study adds knowledge to the currently limited academic scope of lived experiences of FHHs regarding health care accessibility in developing countries.

Altogether, this novel model of understanding and assessing accessibility to health care may be of value for further development of feminist health geography by outlining the relevance of theoretical designs as triangulation in health care accessibility analysis. As well as, the use of the concept of FHHs and highlighting the lived experiences of more marginalised population groups in developing country contexts.

Chapter 3: Research design and methodology

A well-considered and appropriate methodological approach corresponding to the research objective and questions is of key importance for a successful research project. Hay understands methodology as "the philosophical and theoretical basis for conducting research that is much broader and sometimes more politically charged than method alone" (Hay, 2016, p. 447). For this study, I adopted primarily a qualitative methodology motivated by social constructionism or interpretivism, whereby has been combined with quantitative data and analysis to allow methodological triangulation. Moreover, to expound on the research design, I embraced a case study design with an exploratory focus.

This chapter will start with a section in which I further introduce the research design and corresponding research questions. Furthermore, I will expound upon my choice for the selected qualitative methods. Then, in the following sections, my specific data requirements, use of methodologies for data collection and analysis are further explained. The last section will address certain ethical issues within the use of my methods and my research design. Additionally, it will also encompass certain influences related to my position and personality as researcher and my ability to reflex critically upon my own research methods and process.

3.1 Research design

The research design of this study describes the strategy I have developed based on various ethical, practical and methodological decisions to maximise the efficiency, internal validity and relevance of this study (de Vaus, 2001). It provides information upon the philosophy and logic behind the chosen research objective, the selected data collection methods, the research participants, as well as the methods of analysis.

The overall objective of this study has been informed by the earlier mentioned SDG number three. Furthermore, the theoretical framework in the previous chapter has provided an insight into the existing discourse in the field of health geography, the concepts of measured and perceived access, the role of geographical factors and individual context in equitable access and concept of female headed households. As well as, it has identified certain existing gaps in the academic health geography, which reveal what is specifically of relevance to be studied. Combining these knowledge gaps and testing of existing concepts, I developed an assessment of whether and to which extent lived experiences of geographical factors and individual context by FHHs explain the difference between measured and perceived accessibility to health care services in Malawi. The aim has been to explore those lived experiences through qualitative

methodology being inspired by feminist GIS as intervention tool. Hereby, the study's corresponding main research question is: *What is the role of geographical factors and individual context in determining the lived experiences of access to health care services for female heads of households in the case study of Malawi, by making use of feminist GIS?*

To answer my research question in a valid and reliable manner, I developed some specific sub questions:

1. How is the concept of female heads of households understood and put into practice in the Malawian health care environment?
2. Which factors explain differences between perceived access and measured accessibility to health care for female heads of households?
3. What could be the impact of including the voice of female heads of household into spatial development processes?

The research design has been inspired by social constructionism, as has been explained in chapter 2.3. This allowed me to construct a social understanding of the perceptions of FHHs about their everyday realities of health care accessibility. Furthermore, the study and participants have been approached with a feminist epistemology to challenge the dominance of positivist and less gender-sensitive studies existing in the academic scope upon Malawi (Moss, 2002; Ntata & Biruk, 2009). According to Cope (2002), based on Anderson (1995) line of reasoning, feminist epistemology is attentive to:

> "the consideration of gender influences what "counts" as knowledge, how knowledge is legitimized, and how knowledge is reproduced and represented to others … it involves not only hearing "women's voices" but also thinking about how gender as a set of social relations affects both men's and women's responses in the research framework… it requires thinking about how socially constructed gender roles, norms, and relations influence the production of knowledge". (Cope, 2002, p. 44)

In line with feminist epistemology, I intentionally divided attention to those frequently overlooked in hegemonic views of the health care system in Malawi; the FHHs, as well as I have acknowledged the significance of intersubjectivity, context, situated knowledges and

power relations during the entire research process (Rose, 1997; Moss, 2002). In section 3.6, I have provided an extensive reflection on the role of these elements in this study.

Then, the role of geographical and individual factors in the lived experiences of health care accessibility has been identified through a qualitative case study research design, based upon a quantitative assessment of applicable and valid study sites where the measured and perceived accessibility differed significantly. Regarding research methodology, a novel model of analysing health care access has been used by triangulation of quantitative and qualitative data. The aim of this triangulated combination was to increase the validity of the entire research (Mason, 1994). Spatial data as GPS coordinates and quantitative survey data from an earlier study – the EquitAble project - has been used to identify the two Malawian study sites where a difference between measured and perceived access has been apparent, which is discussed in further detail in chapter 4.3. In addition, I have used qualitative data methodology -FGDs, interviews and participatory exercises-, to further explore the lived experiences of geographical factors and individual context by FHHs. This qualitative approach, making use of feminist GIS, has resulted in the largest amount of data in this study. The qualitative methodology allowed me to attribute meaning to the identified divergence between measured and perceived access within the quantitative analysis. It allowed me to explore the individual feelings, perceptions and experiences of the study's participants. Furthermore, it had my preference, since Ntata & Biruk (2009) indicated 'a marginalisation of qualitative methods' concerning research in Malawi. The collected qualitative data has been analysed by the framework approach of thematic analysis. In section 3.4 I elaborate upon the logic behind this decision.

Since qualitative methodology has a more in-depth focus and is therefore not very suitable for a large research population, this methodology has been combined with the case study design. McDowell (1997) argues that a small-scale, qualitative case study design is an appropriate methodology for female researchers to study women, since this allows them to establish an atmosphere for listening while taking into account the wider context. This caught my interest and therefore, I have narrowed down the scope of this study to two study sites to enable an in-depth comprehension of the causal factors. The case study has an exploratory focus, since there exists relatively little information of FHHs in Malawi, and even less regarding their perceptions of access to health care. Nevertheless, there is also an explanatory twist incorporated with the aim to explain the underlying factors of the issues they face in health care access (Adler & Clark, 2011). This combination makes it impossible to position the research as either entirely

inductive or deductive, therefore is it more appropriate to place this study somewhere in the middle of the inductive-deductive continuum.

Next to the triangulation in methodology, also a variety of research participants have been involved. Different types of participants with various perceptions and backgrounds, such as FHHs and health care workers, have been approach in order to validate or question each other's perceptions and thereby enhance the reliability and rigour of the research (Baxter & Eyles, 1997). First of all, the research participants of this study consist of FHHs, since they are the primary focus of this study. An interesting focus considering the Malawian context, since almost one third of the households are FHH, however hardly any academic literature exists upon this population group and their access to health care (NSO & ICF, 2017).

Besides this, also the perceptions and experiences of different health care providers, have been involved in this study. I considered their viewpoints as highly relevant to validate, to complete or to question the viewpoints of the FHHs regarding health care accessibility.

The preliminary research design involved a collaborative action approach which hoped to stimulate empowerment among research participants to hold institutions responsible, by including them into existing spatial knowledge (Friedmann, 1992; Refstie & Brun, 2012). Due to time constraints resulting from delays in arrival of the research team and obtaining the official clearance from the National Commission for Science & Technology, I decided to move away from this approach to avoid that expectations by research participants could not be met. However, I have been highly aware of the importance of doing research *with* the research participants and avoid postcolonial power relations and outcomes, thanks to the adopted feminist health geography approach. Therefore, in the last section of this chapter, section 3.6, I reflect upon the power relations, my positionality and the ethics within this study. First, the case study design is further explained.

3.1.1 Case study design

The aim of this study is to give a comprehensive insight into the perceptions of FHHs towards their access to health care services in Malawi. It was time- and resource wise inconceivable to sketch a thorough understanding of this by focusing on the whole of Malawi. Therefore, I decided to adopt the case study design to allow me to construct an extensive comprehension of health care access for FHHs in certain areas of Malawi (Stake, 1995). According to Yin (1981):

"case studies are the preferred strategy when "how" and "why" questions are being posed, when the investigator has little control over events, and when the focus is on a contemporary phenomenon within some real-life context" (p. 1).

Through a case study design an extensive understanding of the issue at stake can be gained, because information is collected about a broad range of essential composing features in the natural setting of the entire case (de Vaus, 2001). On the other hand, a drawback of the case study design are the restricted possibilities for generalisation (Adler & Clark, 2011). Therefore, I adhered that the findings of this study are only applicable for similar country contexts. Furthermore, the existing health care policies, earlier findings from the EquitAble quantitative survey data and the wider academic literature allow me to broadly crosscheck my findings, to ensure a better reliability and generalisability of the outcomes.

Then to specify the case study a bit further, I have selected a clinical case study approach. This results in a case centred study whereby existing theories are used to understand the case thoroughly. The selection of relevant and suitable units of analysis, or cases, is of critical importance to ensure validity of the study (Baxter & Jack, 2008). Two cases, Chimembe and Chitekesa, have been selected to be examined sequentially and in retrospective (de Vaus, 2001). Chapter 4 gives a further justification for the strategic selection of these two cases. I have decided to select at least two cases, since multiple cases or collective case study designs may yield more credible and far-reaching understandings of the phenomenon than single case designs, especially for 'why'-questions (Yin, 1981; Stake, 1995). These two cases were aimed to provide both complementary and contrasting information regarding access to health care for FHHs. As the cases exist out of various components and multiple information sources, a combination of data collection methods is used in this study in order to fit this richness.

3.2 Primary data collection

Primary data is collected and used by the same researcher. The methods of semi-structured interviews and focus group discussions have been used in this study to explore the factors contributing to divergence between the perceived and measured access. This section further expounds the reasoning behind the selection of those primary data collection methods and the methods used for sampling. But, first of all, an introduction of the research team and overview of the fieldwork has been provided.

3.2.1 The fieldwork and the team

The actual data collection for this study took place between 27th of October and 23rd of November, 2017. Table 2 gives an overview of this period of data collection. This data collection has been preceded by a month of preparations, whereby I was introduced to Malawian society, the health care environment and Malawians through informal conversations and visits. Since my arrival, at the 15th of September, I also performed the quantitative analysis to identify suitable study sites and I prepared the interviews and focus group discussions.

Table 1. Overview of the fieldwork period in Chimembe and Chitekesa

Day	Activity		
23/10 – 27/10 (Alister/Peter/Stine/Esther)			
	Training and preparation of the fieldwork		
	Chimembe fieldwork		
Day	**Activity**	**Who will do it**	**Transcription**
Friday 27/10 (Fiskani/ Leah/ Esther**)**			
Afternoon	Organise FGDs	Fiskani/ Leah/ Esther	--
Afternoon	Meeting with TA/village headman/ police (community entry)	Fiskani/ Leah/ Esther	--
Saturday 28/10 (Alister/ Stine/ Esther/ Leah/Fiskani**)**			
Morning	Meeting village headman in Mtiza (community entry)	Alister/ Stine	--
Morning 10 am	FGD FHH	Fiskani/ Leah/ Alister (Stine/ Esther observe)	Leah
Afternoon	Interview village headman	Stine/ Alister/ Esther	Stine
Monday 30/10 (Peter/ Stine/ Esther/ Leah/ Fiskani**)**			
	Interview traditional healer	Esther/ Peter	Esther
	Interview FHH	Esther/ Stine/ Leah	Esther
Tuesday 31/10 (Alister/ Peter/ Stine/ Esther/ Fiskani/ Leah**)**			
8.30	District Health Officer meeting (DHO) (community entry/ entry to health facility)	Alister/ Peter/ Stine/ Esther	--
Afternoon	Meet with officer in charge of health centre (community entry), and make bookings for FGDs and interviews	Alister/ Peter/ Stine/ Esther	--
	Interview medical assistant at health centre	Alister/ Esther	Esther
	Interview Medical assistant at health centre	Peter/ Stine	Leah
Wednesday 1/11 (Stine/ Esther/ Fiskani/ Leah**)**			
2 pm	FGD Health Surveillance Assistants at health centre	Fiskani/ Leah	Fiskani
12 noon	Interview nurse (midwife) at health centre	Esther	Esther
12 noon	Interview nurse (midwife) at health centre	Stine	Fiskani
Thursday 2/11			
	Transcription	Fiskani/Leah/Esther	

Friday 3/11			
	Transcription	Fiskani/Leah/Esther	
Chitekesa fieldwork			
Thursday 2/11 (Alister/ Peter/ Stine/Esther)			
Morning	Meet with DHO and District research officer)	Alister/ Stine/ Peter/ Esther	--
	Meet district commissioner	Alister/ Stine/ Peter/ Esther	--
	Meet Police	Alister/ Stine/ Peter/ Esther	--
Friday 3/11 (Leah/Fiskani/Esther)			
Morning	Meet TA/ village headman	Leah/ Fiskani/ Esther	--
	Make appointments for FGDs and interviews	Leah/ Fiskani/ Esther	--
Monday 6/11 (Leah/Fiskani/Alister/Esther)			
Morning	FGD with FHH	Leah/Fiskani	Fiskani
	Interview with FHH	Leah / Esther	Esther
Tuesday 7/11 (Leah/Esther)			
Morning	Interview with FHH	Leah / Esther	Esther
Afternoon	Interview with FHH	Leah / Esther	Esther
	Interview with FHH	Leah / Esther	Esther
Wednesday 8/11 (Leah/Fiskani/Esther)			
	Transcriptions	Leah/Fiskani/Esther	
Thursday 9/11 (Leah/Fiskani/Esther/Alister)			
Afternoon	FGD Health Surveillance Assistants at health centre	Leah / Fiskani	Fiskani
	Interview Medical Assistant at health centre	Alister	Alister
	Interview Nurse (midwife) at health centre	Esther	Esther
Friday 10/11(Esther)			
Afternoon	Interview Nurse (midwife) at health centre	Esther	Esther
Saturday 11/11 (Leah/Fiskani/Alister/Peter/Esther)			
Morning	Debriefing (discussed that Leah will write a report about Fieldwork in Chimembe and Fiskani about Chitekesa)	Leah / Fiskani / Alister / Peter / Esther	Leah and Fiskani
13/11 – 18/11 (Leah/Fiskani/Esther)			
	Transcriptions	Leah/Fiskani/Esther	
Sunday 20/11 (Esther)			
Morning	Interview with Christian Health Association of Malawi	Esther	Esther
Tuesday 21/11 (Esther)			
Morning	Interview with Ministry of Health	Esther	Esther
Wednesday 6/12 (Esther)			
Morning	Skype interview with Malawian Red Cross Society	**Esther**	**Esther**

My study is part of the larger GeoHealthAccess project[3]. This provided me with the opportunity to collect the data for this study with a team of experienced Malawian researchers and research assistants. However, all other parts of this study have been carried out individually. The following people took part in the data collection period, besides me:

- Two Malawian researchers from the Centre for Social Research at Chancellor College, University of Malawi: Dr. Alister C. Munthali and Dr. Peter M. Mvula.

- Two Malawian research assistants (RAs) from the Centre for Social Research at Chancellor College, University of Malawi: Fiskani Msutu (male) and Leah Mziya (female).

- One Norwegian researcher from SINTEF (only present during the Chimembe fieldwork): Stine Hellum Braathen.

The team consisted out of people from different backgrounds, cultures, ages and gender. Besides this, our roles as researcher could be placed at different positions within the insider/outsider continuum (Breen, 2007; Dwyer & Buckle, 2009). As an example, the Malawian researchers could be considered as an 'insider', because of their Malawian background, shared culture and language with the respondents, where Stine and I would be 'outsiders'. However, the Malawians were at the same time also 'outsiders' in the respective communities, since they were substantially higher educated and were raised in other local communities in Malawi. Such a mixed research team generated advantages for the data collection; such as ability to connect naturally with local respondents and a better understanding of the health care situation by the Malawian researchers (Bonner & Tolhurst, 2002). While, for me as an outsider, I was generally able to ask more open and simpler questions, since I was not able to take certain elements for granted, since I was not familiar with the local circumstances and experiences (DeLyser, 2001). According to Thomas et al. (2000) a mixed insider-outsider team might enhance the quality and trustworthiness of data collection.

Collecting data in a team was highly necessary for this study and has offered me certain advantages (Beaver, 2001). For instance, I was in need for the assistance of the Malawian researchers and assistants to translate my interview questions to Chichewa, as well as the received responses back to English, since I did not speak this language. This type of assistance

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[3] More information about GeoHealthAccess can be found at
https://www.sintef.no/en/projects/geohealthaccess-the-geography-of-vulnerability-and/

was also necessary during the FGD facilitation, which were conducted by the research assistants. Furthermore, being part of a local research team enabled me to conduct research in an efficient way, whereby the local culture and habits were respected at all times. For instance, to perform research in a certain community, one first has to approach 'community gatekeepers' (e.g. chiefs, District Health Officers) who will grant access if you are in possession of the right documents. By being part of the University of Malawi access to these study sites was obtained a lot quicker and in a respectively manner, than when I probably had tried to gain access by myself as a foreign researcher. Moreover, collaboration with the team allowed me to collect sufficient data in a short period of time thanks to our efficiency and teamwork.

Nonetheless, data collection with a team also brought along some challenges for me. For instance, it was difficult for me to follow up all interviews and FGDs closely, since I was not part of all of them. This forced me to trust my fellow researchers, based on their previous experience, that they would perform adequately. As a result, I sometimes only got to know what in detail was said in a FGD, when the transcript was finished. Next to this, as a team we had to make sure that our research agendas and timeframe were well-aligned in order to suit the flexible needs of our participants in mind. Subsequently, this sometimes resulted in not being able to execute all planned interviews and FGDs due to time constraints. For instance, I wished to conduct more in-depth interviews with FHHs in Chimembe, however this was with the timeframe of the entire data collection period not feasible. I aimed to compensate this somehow, by collecting more in-depth interviews with FHHs in Chitekesa, so saturation[4] in my data collection was still reached (Miles & Huberman, 1984).

3.2.2 Focus group discussions

To fit the study's objective, one of the aims was to collect data in both group settings as and individually to be able to explore the diversity between common and individual factors as barriers to access. Moreover, I wanted to assess the participants' geographical understanding of their health care system and accessibility by making use of participatory mapping exercises. FDGs are the optimal method to explore those two elements, as it uses group interaction in retrieving data (Cameron, 2016). One of the main advantages of FGDs is the 'synergetic' effect; taking place as a result of individual participants adding information and confirming or challenging perspectives of other participants. Some researchers indicate this results in valuable

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[4] Saturation = Data collection continues until no new significant information is gained (Glaser & Strauss, 1967)

and different information in comparison to other methods, since knowledge is gained in the context of others (Berg, 1989; Stewart & Shamdasani, 1990; Pratt, 2002). For instance, in my case, I was able to assess the various lived experiences of FHHs upon their barriers to access while they were interacting with each other as a group. Besides this, Goss & Leinbach (1996) reveal that during a FGD new comprehensions and views can also be obtained by the research participants, next to the researcher. This aspect recognises the bilateral and reciprocal transfer of knowledge, a characteristic which is valued by feminist geographers. Another advantage, in line with feminist epistemology, is that FGD provide the opportunity for less hierarchical relationships between the researcher and its participants, since authority of the researcher can be deputed and challenged by the participants (Pratt, 2002). Lastly, FGD are beneficial with a limited time frame, since multiple viewpoints and social interaction can be gathered synchronously (Cameron, 2016).

A FGD brings along certain challenges as well, for instance Cameron (2016) reveals retrieving relevant data from focus groups is a challenging process, since these groups are difficult to manage and control, because participants might easily go off-topic. To minimise this challenge, the FDGs in this study were facilitated by local and experienced focus group facilitators. Furthermore, it might be the case that certain participants do not dare to express their true perceptions and understandings due to prevalent hierarchy, power imbalances or opposing opinions within the focus group (Adler & Clark, 2011; Acocella, 2012). Those participants might be of more value when approached in an individual setting, such as an in-depth interview. For this reason, thorough sampling of participants, as is further explained in section 3.2.4, and careful preparation of the focus group format took place beforehand.

The size and number of FGDs are aspects that has to be considered carefully. I developed a format with about six to eight participants per FGD; small enough that each participant would have enough room to be of valuable contribution to the discussion and large enough to have sufficient perceptions captured (Kitzinger, 2005). I conducted both FGDs with FHHs and separate discussions with Health Surveillance Assistants (HSA) to provide the perspective of health care providers. For the FGDs with FHHs, I opted for a variety in age among participants in order to gain a more elaborate understanding of their 'lived realities'. For the FGDs with HSAs, there was a variety in age and gender included. The team and I paid careful attention in each FGD that there were no strong power imbalances, hierarchical differences or positional varieties in the community present, in order to try to avoid any inconvenience or fear to express

their true perceptions during the discussions. For instance, we asked all participants individually if there were certain persons in their community they did not want encounter during the discussions. None of the respondents expressed this was the case. To embellish trust among both the participants and the facilitator of the FGD, the discussions took place at a 'neutral' location for the FHHs; either in front of the local church or in the community centre. These locations were considered as suitable and neutral, since all of them visited those locations from time to time. The FDGs with the HSAs were conducted at the health facility straight after their working hours to ease participation for them.

Each of the FGDs were facilitated by one of the Malawian research assistants, whereby the other research assistant took up the role as note-taker. The FGDs with FHHs were facilitated by the female research assistant to potentially enhance the level of comfort and trust among the FHHs. The FGDs were conducted in the local language Chichewa, which made it difficult for me contribute during the discussions itself. Therefore, I have chosen to minimise my presence during the discussion to avoid interruption of the process and enhance the richness and rigour of the discussion. By not being part of the FDGs, I have tried to avoid that the research participants would answer what they thought a Western researcher would like to hear. I have decided to use this approach instead of working with direct translation/interpretation during the FGD, because I did not want to interrupt the thoughts, expressions and momentum of the discussion through pausing the discussion continuously for interpretation/translation. Interruptions for translation would have made it perhaps more challenging to create the same open atmosphere for the women to tell their stories, with as a consequence a less 'rich' understanding of their lived realities. However, this choice of no direct translation made it more difficult for me to control the FGDs, since I was not updated during the discussion. For this reason, accurate briefings before and after each session were highly necessary and of important value for me to follow the process of data collection. The research assistants conducted the discussion with the help of the FGD-guide I created beforehand and updated on the basis of the briefings of the previous FGDs (see Annex 1).

Each FDGs had a similar set-up:
- Facilitator shares information about the study and asks for consent to record the FGD.
- Facilitator asks each participant for demographic information (e.g. age, level of education, type of FHH)

- The participants engage in a participatory mapping exercise by drawing a map of their health care access

- Printed satellite maps are shown, whereby the participants are asked to describe what they see on the maps and which similarities/differences they recognise related to their own map

- The topics from the FGD-topic guide are introduced, however in a flexible order

- Round-up: refreshments and bread were provided to thank the respondents for participating

I conducted four of those focus groups in total: in each study site one with FHHs and one with HSAs. These FGDs gave me an interesting basic understanding into the daily situation of health care access in the area. I decided to follow up the insights gained from the FGDs with semi-structured in-depth interviews to be able to further explore the perceptions and individual context of accessibility to health care services for FHHs. Moreover, due to the limited time available of qualified health providers it was a demanding task to organise FDGs with them. For that reason, semi-structured in-depth interviews have been conducted to fit their tight schedules better and to avoid interruption of their health care provision. Another benefit that occurs from triangulation of methods is its contribution to enhance the validity of the results of this study, since probable limitations during the FDGs have been avoided during the in-depth interviews, as well as the it allows one to cross-check certain outcomes (Baxter & Eyles, 1997). The method of semi-structured in-depth interviews is further explained in the next section.

3.2.3 Participatory mapping exercises

At each of the FGDs a set of participatory mapping exercises has been incorporated, being inspired by feminist GIS. Feminist GIS underlines the notion of different types of knowledge being mindfully and considerately implemented into traditional GIS (Cope & Elwood, 2009). It is characterized by qualitative methodological, epistemological and ontological multiplicity and flexibility to reach a fluid creation of meaning (Cope & Elwood, 2009). And evolved as a reaction to certain criticisms expressed upon traditional GIS; as its limitedness in involving research participants, exclusion of marginalised groups from usage, adopting frequently a masculine lens and believing in the objective truth, which all connects GIS tightly with positivist reasoning (e.g. Lake, 1993; Pickles, 1995; Roberts & Schein, 1995; Schuurman, 2000; Craig et al., 2002; Sheppard, 2005; O'Sullivan, 2006). Feminist geographers made innovative suggestions of structuring and utilising GIS differently, for instance i) by enhancing critical reflexivity of researchers upon the social contexts and power constructions through commitment to 'give back' and incorporate community participation (Moss, 1995; Ghose,

2001), or ii) by embedding new types of qualitative data into GIS in order to uncover meaning and interpretation of spatial information and iii) by applying feminist visualisation as instrument. Moreover, it adheres to understand the effects of GIS upon gendered social relations and impacts on women's identities and everyday activities and circumstances (Kwan, 2002; McLafferty, 2002, 2005). New application opportunities, have been stimulated such as the creation of gendered knowledge that can support women, which is in line with the aim of this study (Bosak & Schroeder, 2005).

This form of feminist GIS can be regarded as a tool to enhance agency and social capital of marginalised groups, since it allows the involvement of alternative voices and reflection of their identities. According to Newman & Dale (2005) a form of communal social capital has the potential to generate changes whenever individuals alone do not have the means. Feminist GIS or participatory exercises enable these vulnerable groups to state their opinions and perhaps influence certain processes (Dale, 2005).. Therefore, it may be of value to improve research, decision-making and development processes, since alternative views become integrated and local and traditional knowledge can be privileged (Dunn, 2007). The amount of studies which have explored accessibility to health care services in developing countries contexts, such as Sub-Saharan African countries, by using feminist GIS is very limited. Therefore, it seemed interesting to test whether this instrument does allow the inclusion of regularly unheard voices into spatial decision-making and development process. The participatory exercises at the beginning of the FGDs, were developed to allow the voices of FHHs to become part of the development process of the Malawian health care environment.

In total the respondents have been introduced to two different exercises. The map drawing exercise of their access to health care services, the first exercise, was aimed to start and spark the discussion (see image 1). This exercise has been introduced to already capture an insight in various perceptions expressed by the participants about their physical and perceived access, because I expected that the second exercise was a bit more difficult due to low map-literacy of respondents. The next exercise involved the interpretation of the developed satellite

Image 1. Map drawing exercise at Chimembe (personal image)

maps where measured and perceived access were indicated (see image 2 and 3). The aim of this exercise was to grasp the interpretation and understanding of the participants of printed maps. Altogether, with those participatory exercises I aimed to both communicate spatial knowledge, as well as include the local spatial knowledge of the research participants into development of the health care environment and its accessibility.

Image 2. Satellite map of Mtiza community, in Chimembe catchment area, developed by ArcGIS (created by GeoHealthAccess team)
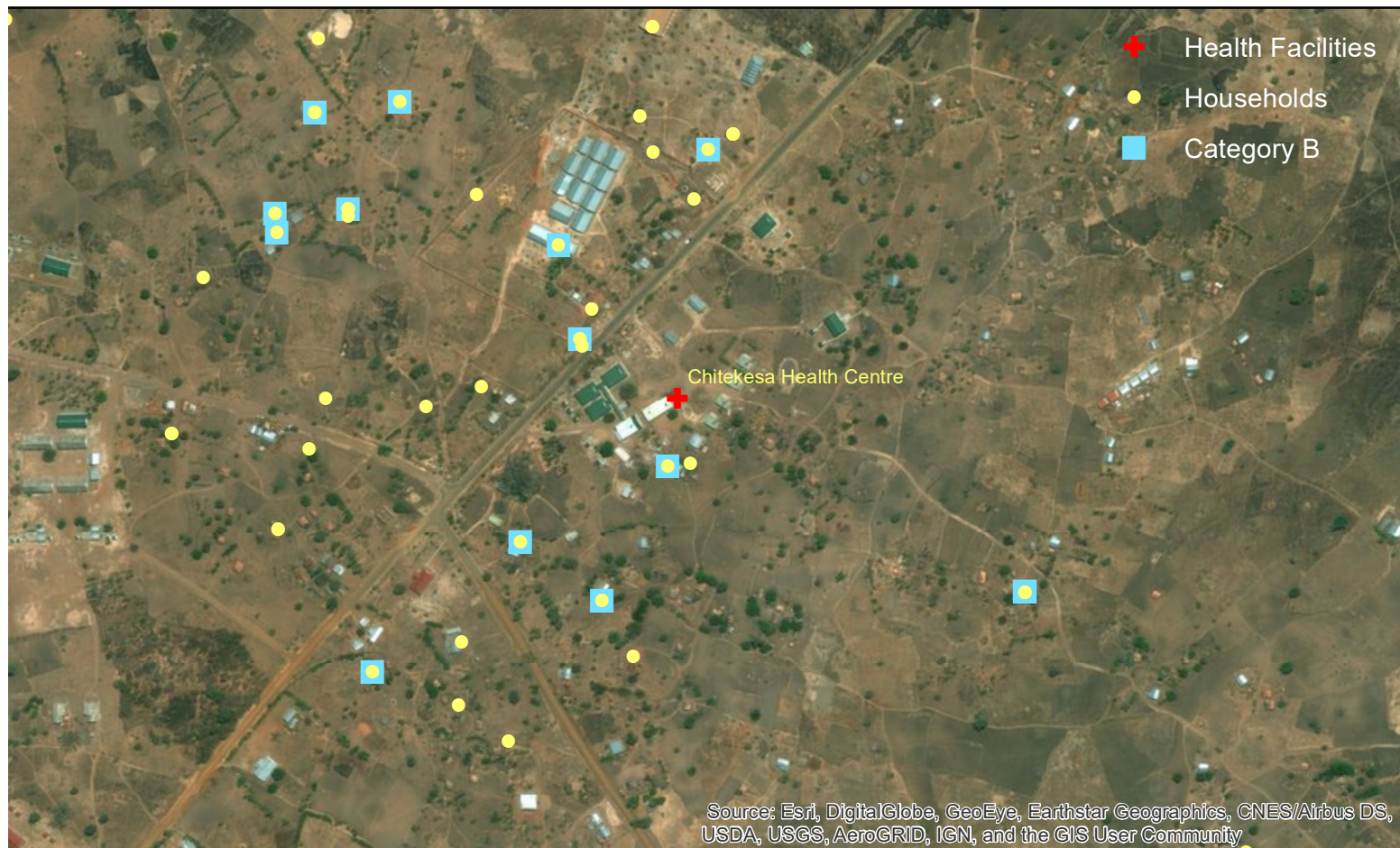
3.2.4 Semi-structured in-depth interviews

Crang & Cook (1995) and Dunn (2016) underline that interviews are the ultimate method to derive access to profound experiences and viewpoints, while at the same time to understand the body language and emotions involved. To obtain valuable outcomes from interviews careful planning, preparation and the selection of a suitable form of interviewing is indispensable. I have chosen to make use of the format of semi-structured interviews to allow flexibility and adaptability to the responses of the informant to a certain extent and, on the other hand, to enable comparability of answers from a variety of participants and remaining time efficient by being guided by a certain structure of questions (Dunn, 2016). See annex 2 for the interview guide with topics I covered during the semi-structured interviews. I developed the interview guide rigorously by considering carefully the order of the mainly open questions by using a funnel approach; starting with easy and general questions and slowly narrowing down to more sensitive issues (Sudman & Bradburn, 1982). Capturing perceptions during interviews is far more time-consuming than FGDs where a variety of understandings can be gained at once. A thoughtful selection of participants is therefore required to avoid wasting voluntary time of

participants. Furthermore, another challenge of semi-structured interviews is a result of synchronous interaction in time and place the participants' responses might have been influenced due to my own social behaviour (e.g. body language, visual appearance), also known as the interviewer effect (Dunn, 2016). Therefore, data retrieved during the interviews should be regarded as co-constructed by researcher and participant through intersubjective understandings and thus being context-specific.

Similar as for the FDGs also the context of the interview is of influence on the outcomes of the interview. Thoughtful consideration of place, time, relationship with the researcher enhances the quality of the answers of the participants (Dunn, 2016). The interviews with the FHH's took place at their porches, while the interviews with health care providers (HCP) took place at the health care facility or at their office. Both places were convenient for the participants, since they did not have to travel anywhere and could stay in their own environment. I have conducted the in-depth interviews with the FHHs with the help of the female research assistant as interpreter, since the women felt most comfortable and capable to answer in Chichewa. With this approach, I also aimed to minimise the cultural diversity between the researchers and the participants and to avoid as much as possible the existence of a neo-colonial power imbalance(Al-Hindi & Kawabata, 2002). I would ask my questions in English, whereby the assistant translated this into Chichewa and then translated the answer back to English for me to make sense of the conversation. I preferred this approach, because it allowed me to have an active part in the interview and being able to keep track of the topics discussed conforming the interview guide. The interviews with HCPs were carried out in English and thus no assistance of an assistant was required. Here, I still paid extensive attention to the possible power imbalance, whereby I tried to make it a natural conversation instead of a question-answer framework. Therefore, I carefully framed my responses and questions to avoid bias due to my background in given answers of the respondents (Dunn, 2016). All interviews were conducted face-to-face, except for one skype interview. Altogether, I conducted seventeen interviews, whereby five in-depth interview with FHH's to further explore the topics discussed derived from the FGDs and twelve with health care providers. The duration of the interviews varied between 45 and 75 minutes, including the interpretation during the interviews with the FHHs. The interviews have been audio recorded to avoid any loss of information. All participants were asked for informed consent before participation in the data collection and recording, which was given for all cases verbally. I transcribed most of these interviews, since they were conducted in English. Some of the interviews have been transcribed by other members in the research

team, table 2 gives a detailed overview of this. After the transcriptions were finalised all recordings have been deleted.

Besides the data collection methods described above, I also observed both study sites through community walks to gain a better sense of what was happening within the community and certain of elements (roads, distances etc.) the participants described during the FDGs or interviews. I jotted down my observations during this walk in my fieldwork diary. Besides these jottings, I also collected other data in this diary as well as by memo's, through consistently writing down my thoughts, observations, new insights and reminders. The aim of this was to keep the entire research process focused on the main objective of the study, to have a continuous attentiveness to the context of the study as well as to be critically reflected upon the ethics and my personality and positionality involved in the research (Darling, 2014; Cope, 2016). This last element is further discussed in section 3.5 and 3.6.

3.2.5 Sampling of participants

Sampling is the concept that describes the selection of participants for the study, since time and resources constrained me to study the entire population of fit. Such a selection process needs to be executed rigorously and carefully since it is essential for the validity and efficiency of the research (Curtis et al., 2000; Morse & Niehaus, 2009). It requires a balance between methodological, theoretical, ethical and practical choices (Adler & Clark, 2011). In this section, I will illustrate my rationale for the selection of my respondents.

Sampling of female headed households

The type of sampling I have used to select FHHs, resembles most closely with how Miles & Huberman (1984) describe 'purposive sampling', which is an appropriate method for a qualitative study based on an existing bulk of social theory to reach out to informants encompassing most rich information for the study without aiming to generate outcomes for the entire population (Patton, 1990). Adler & Clark (2011) describe purposive sampling as "a nonprobability sampling procedure that involves selecting elements based on the researcher's judgement about which elements will facilitate his or her investigation" (p. 123). I selected my participants, purposively, based on the criteria if they were a de jure FHH, whereby aimed for a selection of homogeneous, typical cases (e.g. living standards) to enable an effective focus group discussion (Palinkas et al., 2015). I aimed to focus on de jure FHHs since they are regularly facing more difficulties in terms of living conditions and income generation, as was

highlighted in chapter 2 due to the fact they have a lower worker to non-worker ratio. Since, the diversity of this study is already represented in the two different case study sites, there was no aim for explicit variety among participants. A smaller variation among participants allowed me to look for similarities within the study area and potential contrasts between Chimembe and Chitekesa. The chief from the respective study site assisted me in the selection by functioning as an intermediary and reaching out to those women who suited the criteria to gather them for the FGDs. From there, I have made use of the snowball method to find my next participants for the in-depth interviews. Snowball sampling incorporates using participants from the group of interest to point out other members of interest (Adler & Clark, 2011). This was an effective way to reach out to more FHHs, since the first FHHs had social ties with other FHHs in their community. This enlarged the validity of the study, because more than solely the FHHs pointed out and, perhaps, favoured by the TA, have been included. During, the selection of respondents I had to examine the potential participants for their willingness to cooperate and their ability to express their lived experiences (Spradley, 1979). Before starting the data collection, I did not have a specific sample size in mind. This size evolved as a consequence of saturation, also described by (Glaser & Strauss, 1967) as a grounded theory approach in determining the sample size.

Sampling of health care providers

I have used a different method of sampling for the selection of health care providers, namely convenience sampling (Patton, 1990; Palinkas et al., 2015). I conducted interviews with the respondents that were available at the health care centres at the moment of our visits. The rationale behind this was to avoid any interruption of their daily work activities in order to prevent any delay in their schedule. I had the desire to have a variety in the sample, regarding occupational position of the health workers. Therefore HSAs, nurses/midwives, medical assistants and policy makers have been involved to portray the perspective and experiences of health care providers.

3.3 Secondary data collection

Secondary data encompasses data that is collected by another researcher. The foundation of this study is based on existing, and thus, secondary data from the EquitAble project. The EquitAble project has been a collaborative research project of researchers in Ireland, Sudan, Malawi, Namibia, South-Africa and Norway between 2010 and 2013. The aim of the project was to produce empirical knowledge on access to health care for vulnerable people in resource poor

settings in Africa. Hereby, quantitative household survey data has been collected upon health service provision and its barriers, as well as the GPS coordinates of participating households (SINTEF, 2013). To identify most relevant case study sites for this study, those GPS coordinates and quantitative survey data upon perceived access have been used. I performed spatial analyses to identify places of divergence between perceived and measured accessibility. This analysis is further explained in chapter 4.4. Being able to use EquitAble project data has been of huge advantage for me, it both time and costs efficiency. Since the EquitAble project was also a SINTEF and partners' project, the reliability and credibility of the data can also be quite well assured, since these are professional research institutes. The evaluation of the data quality is of high importance when assessing secondary data (Sørensen et al., 1996).

3.4 Data analysis

In this section, I will elaborate upon my logic of making sense of my collected qualitative data and how empirical realities have been constructed. This cannot be described completely straightforward, since data analysis is a non-linear process whereby a part of the analysis happened during the data collection process, which allowed me to enhance the amount of relevant data (Bryman & Burgess, 1994). However, I made an attempt to make sense of the data in an as transparent way as possible when all data was collected.

Qualitative collected data is perpetually bulky and likely to be unstructured. Consistency and structure need to be established by the researcher, whereby context and original accounts should be sustained (Ritchie & Spencer, 1994). According to Bryman & Burgess (1994) general strategies of analysing qualitative data, such as analytic induction and grounded theory, evolve around the idea of concept generation (Robinson, 1951; Glaser & Strauss, 1967; Bulmer, 1979). New concepts or concepts close to pre-existing believes will be generated when the researcher immerses oneself completely with the data by looking for connections, consistencies, interesting phenomena and divergences (Hammersley & Atkinson, 1983). Additionally, Miles & Huberman (1984) detect that the generation of concepts is closely affiliated to the idea of coding, whereby codes become the building blocks for the generation of concepts. Thus, to conceptualise my data, there was a need to start an extensive coding process.

Charmaz (1983) outlines the process of coding as 'simply the process of categorizing and sorting data' (p, 111), whereby codes are understood to function as sorting and synthesizing the examination of the data. The coding process involves different stages of coding: i) starting with

the creation of initial or open codes; 'the process of breaking down, examining, comparing, conceptualising and categorizing data' (Glaser & Strauss, 1967, p. 61). Then, ii) focused or axial coding; developing themes derived from establishing linkages between the created open codes (Glaser & Strauss, 1967; Charmaz, 1983). Lastly, iii) theoretical coding takes place, whereby a thematic network or organisational framework is developed to look for connections among themes (Charmaz, 1983; Cope, 2016). According to Creswell (1998), by using an inductive approach, like coding, the researcher needs to be sensitive of the probable involvement of research bias due opinions, reflections and embeddedness of the researcher with the data analysis. A method of analysis which attempts to enlarge rigour of the process and credibility of the outcomes by minimising the research bias and assisting in transparency of the coding process, is framework analysis (Ritchie et al., 2003). Nonetheless, thorough objectivity will not be claimed, since interpretation only makes sense having the social context in mind (Denzin, 1994). This type of systematic analysis of respondent's notions shows close similarities to other methods, such as thematic or content analysis, whereby Gale et al. (2013) even identifies it as part of thematic analysis. Thematic analysis is a process of acknowledging reoccurring themes and patterns in the data, which are of relevance for the exploration of the phenomenon under study (Boyatzis, 1998; Fereday & Muir-Cochrane, 2006). Moreover, the framework method has been highly used in multidisciplinary health research. (Ritchie & Spencer, 1994; Gale et al., 2013). Since, this method allows me to compare themes among cases, both data-driven and theory-driven, in a systematic way, it seems to be the most appropriate tool for analysis. I have chosen to present my analytical process both in a framework as in a thematic network, since the two methods are highly consistent with each other. This representation of the data results in dealing with the certain criticisms of thematic analysis about insufficient depth by representing fragmented data (Smith & Firth, 2011; Alhojailan, 2012).

According to Ritchie & Spencer (1994), who are the first scholars to describe the method extensively, the framework approach has been developed to align systematic analysis with the aims of applied policy research. It can be described by its seven key features: 'grounded or generative, dynamic, systematic, comprehensive, enable easy retrieval, allows between- and within-case analysis, accessible to others' (Ritchie & Spencer, 1994, p. 176). This description shows a certain extent of variation from entirely inductive analysis, whereby it moves along the inductive-deductive spectrum (Smith & Firth, 2011). I have performed my framework analysis according to the five phases for the analytical sense-making process that has been described by Ritchie & Spencer (1994).

The first step focuses on familiarisation with the data to obtain an insight into the richness and variety within the data, which I did through transcribing the interviews and FGDs and by reading through my fieldwork notes. During the transcription process, I made use of the 'Express Scribe Transcription Software' developed by NCH software[5] to enhance speed and accurateness of the transcriptions. During the familiarisation phase, I wrote down reoccurring themes and emerging ideas. The next step involved the creation of a thematic framework or index based on those developed notes; based on both a-priori issues introduced by the interview topic guide and emergent issues revealed by respondents. I have tested and adjusted this first index by coding once of the FGD with FHH, one in-depth interview with FHH and one interview with a health care provider. Afterwards, I coded all my other material according to the previous designed index, which falls under step 3; indexing. I made use of the software program Nvivo[6] to ease and assist me in creating a better overview of the coding process. This helped me in making essential judgements of meaning in and significance of data (Tesch, 1990; Basit, 2003; Leech & Onwuegbuzie, 2007). During this coding process, and by moving back and forth across the data, I had to make some adaptations to the first index to make it a better fit, see annex 3 for the final coding index. Then, an overview was developed with the help of Nvivo to provide an insight in the range of issues, experiences and attitudes present for each different theme. This step of charting assisted me in gaining an impression of my bulk of data. The last step involved mapping and interpretation, which is at heart of the detection process to develop typologies, to discover associations, to determine potential explanations, to identify variations etc. (Hammersley & Atkinson, 1983; Ritchie & Spencer, 1994). In this step, I created different models upon the emerged themes, these can be found in annex 4.

3.5 Ethics

When conducting this research, I had to make several ethical considerations while designing the research, but also during data gathering and analysis. Being thoughtful and continuously reflective upon the ethics involved in this research allowed me to justify the methodology and methods as described. Ethics are described by Sieber (1993, p. 14) as 'the application of a system of moral principles to prevent harming or wronging, to promote the good, to be respectful, and to be fair'. Ethics vary per research, since they are dependent on the context and may vary for humans with different backgrounds (Plummer, 1983). In this section, I reflect upon the ethical issues involved in my cross-cultural research, considering my own behaviour,

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[5] Version 7.03, downloaded at: https://www.nch.com.au/scribe/index.html
[6] Version 12 Mac. More information at: https://www.qsrinternational.com/nvivo/nvivo-products

obligations and responsibilities to all persons involved in this research (O'Connell Davidson & Layder, 1994).

Protection of participants from harm

Firstly, a major ethical obligation for the researcher is to protect all people included in the research from any type of harm. This means, I carefully paid attention that nobody was experiencing any physical, social, financial, emotional, legal or psychological harm, both during the data collection up to finalisation of the entire study (Adler & Clark, 2011). In this study, emotional or psychological harm could have occurred when certain participants express opinions in the FGDs which could be harming other participants and perhaps even leads to suppression outside of the FGDs in a hierarchical society as Malawi (Crang & Cook, 1995; Dowling, 2016). I have dealt with this by transparently sharing potential risks beforehand and conducting the FDGs with local researchers in the local language to safeguard comfortability and the potential to silence whenever topics felt too personal to share. Furthermore, we emphasized that the participants could contact us at any time, just in case the participant would feel they needed this and to receive additional assistance. Next to this, I carefully considered the location of the interviews. By conducting them at the women's households, I avoided any financial harm related to travel costs or physical harm for overcoming long distances.

Voluntary participation and informed consent

I also followed up the ethical principles of voluntary participation and informed consent (Adler & Clark, 2011). This required from me to be responsible to give the participants, beforehand, adequate and transparent information about the research, such as method of data collection, study purpose and outcomes. Hereby, I explicitly emphasized that participants were allowed to refuse to answer questions or withdraw from the interview or FGD at any time, since participation should be completely voluntarily. I addressed this with a letter of consent (see annex 5). Only after receiving this information the participant could give me informed consent that he/she would voluntary participate. Only one of the potential participants, however a valuable on, declined participation in the study. This participant reported three times in a row to have no spare time available for us. One of the team members explained this could be a consequence of that we our inability to offer him allowance, which he perhaps regarded as a condition for participation.

Privacy and confidentiality

Then, the ethical principle of dealing with personal and private information is of major importance, which occurs through data collection by interviews or FGDs. I ensured complete anonymity and confidentiality to my participants by not asking for names and not mentioning any personal data in the outcomes of the study to safeguard their privacy (Howitt & Stevens, 2016). Besides this, I carefully protected my collected data and notes, to make sure the information would not come in the hands of anyone not involved in the study. As well as, I deleted the recordings and notes of the FGDs and interviews as soon as I finalised the writing of this report.

Lastly, there exists the ethical principle of honest reporting, which addresses my responsibility to report my data honestly, to assemble correct data and disperse the outcomes professionally (Adler & Clark, 2011). Additionally, to this, I was attentive of operating carefully without disrespecting others and non-discriminative during the entire study. Altogether, I was supported in being reflective about the ethical principles in my study through applying and receiving ethical approval, before starting the data collection, from both NSD- Norsk senter for forskningsdata AS, Norway and National Commission of Science and Technology, Malawi.

3.6 Assessment of data quality

In this chapter, I have elaborately described the methodologies for data collection and analysis. On the one hand, this enable me to create transparency upon how I operated in this research project, to enhance credibility of the research and to be open for scrutiny. As well as, it provides an insight in which choices I have been making during this project in order to enhance the trustworthiness of the research. Debates upon quality criteria and rigour, trustworthiness, of qualitative research became part of the academic field during the 1980s, when social research was emerging (LeCompte & Goetz, 1982; Lincoln & Guba, 1985). Lincoln & Guba (1985) transformed hereby the post-positivist concepts connected to quantitative research -internal validity, external validity, reliability and objectivity- to similar concepts suitable to evaluate the rigour of qualitative research for qualitative research: 'credibility', 'transferability', 'dependability' and 'confirmability'. These established concepts are aimed to indicate the level of 'truth' of the research, while this is, essentially, in contradiction with the philosophical basis of qualitative research (Seale, 1999; Denzin, 2002). Both Lincoln (1995) and Creswell (1998) reacted to this by introducing criteria to establish rigour based on the relational aspect of knowledge. These criteria addressed the connection of the context in which the research is

undertaken and the quality of the research, such as reflexivity and positionality of the researcher, power relations among the researcher and participants, as well as triangulation, peer review, member checks, prolonged engagement and deviant case analysis. Some of these terms have been embedded in the other sections of this chapter and some will be further evaluated in the rest of this section.

3.6.1 Critical reflexivity

Feminist health geography highlights the importance of the social context of research, which is not incorporated in the rigid codes of ethics (Dowling, 2016{Moss, 2002 #3). For this reason, it is extremely important to be emerged in the process of continuous, self-conscious scrutiny of the situation I was embedded in, also called 'reflexivity' by England (1994). In other words, with every decision I made, I firstly considered and outweighed the benefits, consequences and ethical issues involved. By feminist geographers' reflexivity is appreciated as a strategy for emphasizing to what extent geographical knowledge is situated, whereby is meant to what extent the knowledge is influenced and formed by its circumstances (Rose, 1997). Two major issues of being constantly scrutinised are the concepts of power relations and subjectivity (Dowling, 2016{Moss, 2002 #3). This was a challenging assessment to execute during the entire research, because sometimes it is not so evident what the influence is of these elements on the study and vice versa. As well as, sometimes I was so emerged in the research, it was difficult to create more distance to see these kinds of influences. It helped me enormously, through making use of memos, to capture all small elements or moments whereby potential subjective sense-making or out of balance power relations might have occurred during the data collection, and furthermore a research diary to build in moments at the end of each day to reflect on those items.

3.6.2 Power relations

Since my research addressed participants from a complete different cultural background than my own background, and recognising the history of colonialization of Malawi by Westerners and myself coming from a Western country, I was highly aware I should avoid, at all costs, an imperialist approach and exploitative power relations (England, 1994). Therefore, I ensured that the methodologies and research outcomes of this study valued the rights, opinions and desires of my participants and were communicated transparently (Howitt & Stevens, 2016). This was a major reason to collaborate with a Malawian University and Malawian research team, since they knew the Malawian context at heart and had the highest potential to achieve

reciprocal relations with the participants. For instance, I learned during the first FGD where I was part of, that the participants felt perhaps somewhat intimated by the presence of a whole research team, including two white women. I noticed the answers were brief and superficial. The next FGD only two researchers with Malawian background were present. They evaluated that the discussion became much more in-depth, probably due to the fact more equal power relations were established. Besides this, the knowledge I created in this study is both directly and indirectly powerful (Dowling, 2016). Directly, since the knowledge aims to influence policy issues and policy making, but also indirectly, since it tells the stories and experiences of my participants and perhaps it changes way these people are perceived. I tried to be aware of this during the entire study, as consequently, this reveals the importance of reporting their perspectives and experiences truthfully and not as how I perceive them.

3.6.3 Subjectivity and intersubjectivity

Moreover, by using qualitative methodology social interactions take place between the researcher and participants. This immediately points towards a certain level of subjectivity involved in the study, since the researcher personal background and understanding are somehow involved in the data collection and analysis, even though when aimed to limit this as much as possible (Crang & Cook, 1995). Next to the importance of being attentive to subjectivity is consideration of intersubjectivity required. Intersubjectivity "refers to the meaning and interpretations of the world created, confirmed or disconfirmed as a result of interactions (language and action) with other people within specific contexts" (Dowling, 2016, p.31). Being critical reflexive helps to deal with subjectivity and intersubjectivity, for instance through coding and keeping memos (Cope, 2016). This continuous scrutiny helped me to become conscious of the level of personal involvement and the impact of social relations during the entire research. For instance, I was mainly an outsider by researching Malawian female heads of households their access to health care services, since I am not a head of the household, not Malawian and do not face similar issues to access health care services. These differences could have causes a certain different interpretation from my side, then the participants would have meant. To avoid misinterpretations, higher levels of subjectivity and to make the participants feel more at ease, I teamed up with a Malawian female researcher, who was more considered as an insider. After each interview, we discussed the conversation together to limit my misinterpretation as an outsider. Being an outsider also bring benefits along, such as that participants more clearly articulate and express their feelings to make sure they are well understood (England, 1994).

3.6.4 Positionality and personality

According to Moser (2008) should also the 'positionality' in my production of knowledge been critically analysed and reflected. My position embedded in the research is shaped by my own background, the amount of previous experience with the topic and the wider context and research methods, and the involved participants, which might create a certain bias (Rose, 1997). As an example, I was in the position of experiencing Malawi for the first time, so I knew I should not assume that I could capture every element of interest or value for the study. This could have led to a more truthful and less biased representation of the situation, since I could not have been influenced by my former personal experiences or judgements about Malawi. However, this is not for a 100% applicable, since I have been reading about Malawi beforehand and thus might had created some judgements already. On the other hand, I am shaped by Western ideas and values, which is something I kept in mind during data collection and especially analysis and reporting of the data. For instance, I had to get used to the level of hierarchy that was present in Malawian society and adhere to this. Also, the fact that I had limited previous experience with conducting cross-cultural research, was something I kept in mind during analysis and reporting, since this may have limited the professionalism of the data collection (Muhammad et al., 2015).

Furthermore, as a qualitative researcher I brought multiple emotional capabilities into the research. My own personality and emotions should therefore also be critically reflected (Moser, 2008). My personality and presence during the interviews and FGDs might have influenced the participants conduct of responses. For instance, I am an extravert person, whereby some participants feel instantly comfortable with this personality and enjoy having some small talk before the interview and feel free to share their opinions more extensively during the interview. While others perhaps may feel uncomfortable with having this small talk and as a consequence remain more reserved during the interview. Next to this, it was importance that I kept my own emotions and values as much as possible aside during the date collection, so this would not influence the interpretation of the responses. By making use of a diary I reflected after each interview or FDG how I felt during the interview, upon which answers triggered my emotions and what I found remarkable and why. This supported me in being aware of my own emotions and personality embedded in the research and this awareness helped me to strengthen the validity of the research.

Altogether, being critical reflexive during the study did not solve issues of politics of power, subjectivity and intersubjectivity, positionality or personality, however it assisted me in become aware of those issues and report them transparently and honestly in order to enhance the credibility and validity of this research. However, whereby should be realised that complete transparent reflexivity cannot be achieved due to multiple uncertainties (Rose, 1997). Through recognising the power dynamics, the presence of positionality and subjectivity, I have to underline that all gathered knowledge in this study is situated and positioned knowledge.

Chapter 4: Introduction to the study areas

This study focuses on Malawi, because an extensive amount of progress needs to be made within this country to achieve the universal targets of SDG number three. Malawi suffers from extremely low health standards, has a large burden of disease and is among the most underdeveloped and poor countries in the world; with a 170/188 ranking in the Human Development Index (World Health Organization, 2015a; United Nations Development Programme, 2016). It is immensely challenging for a country with a high presence of poverty to provide equitable and accessible health care services for all, since the vital finances are frequently unavailable (Ministry of Health, 2015). Investigating the challenges towards access to health care services in a country with low health standards and sparse resources seemed to make up an interesting case, since it already indicates a high pressure on the performance of the health care system.

Two study sites have been selected to allow an in-depth exploration of the challenges at hand regarding access to health care services for FHHs. The selected study sites are Chimembe catchment area in the Blantyre district and Chitekesa catchment area in the Phalombe district. This chapter provides a further insight into the background of Malawi and a justification of the study sites.

4.1. Malawi

4.1.1. Geography and Climate

Malawi is a land-locked country in sub-Saharan Africa with Mozambique, Zambia and Tanzania as neighbouring countries (see figure 2). It lies between the latitudes 9–17 °S and longitudes 32–36 °E. It covers a surface of 118.484 km in total, whereby 94.080 km consists of land. An extensive part of the country is covered by the fresh water resource Lake Malawi, which has a length of 580 km (Central Intelligence Agency [CIA], 2018). Malawi lies within the Great African Rift Valley and contains several mountainous areas and plateaus, with as 37 meters above sea level as lowest point and 3003 meters as highest. The main type of vegetation is savannah woodland (World Atlas, 2017). The climate is sub-tropical and seasonal.

Figure 2. Map of Malawi from Demographic and Health Survey 2015-2016

95% of the annual precipitation occurs in the rainy season from November to April. The hot season takes place from September to December with average temperatures of 25° - 37° Celsius. After the rainy season a cooler season starts from May till August with average temperatures of 17°-27° Celsius (Malawi Meteorological Services, 2006; Vincent et al., 2014).

4.1.2. Administrative organisation

Malawi gained its independence, from being a British protectorate, in 1964. Since 1994, after the 30-yearlong regime of Hastings Kamuzu Banda, the country adopted multiparty presidential and parliamentary elections. The current governing party is the Democratic Progressive Party with Peter Mutharika as ruling president since the elections of 2014. The next elections will take place in May, 2019.

There exist four official cities in Malawi: Lilongwe, Blantyre, Mzuzu and Zomba (National Statistical Office [NSO], 2011). The current capital is Lilongwe in the Central region. Lilongwe took over this status from Zomba in the Southern region in 1975 (World Atlas, 2017). The country is divided into three administrative areas: The Northern, Central and Southern region (see figure 2). These regions are further divided into districts. There exist 28 districts altogether, whereof thirteen in the Southern region, nine in the Central region and six in the Northern region. The two research locations of this study are both located in two districts in the Southern region. The northern districts and two districts in the Southern region are typified by a patrilineal system, while the remaining districts in the south and the districts in the Central region are matrilineal (World Health Organization [WHO], 2014). The districts are split up in smaller administrative areas which are named Traditional Authorities (TAs) and governed by chiefs. These TAs are further divided into villages, which are the smallest administrative units and overlooked by a village headman (WHO, 2014).

There is a diversity present in spoken languages in Malawi. The official language and hence the administrative language is English, while Chichewa is regarded as the country's common language. Next to that, Malawi encompasses about ten other languages belonging to each of the different ethnic groups living within Malawi (CIA, 2018).

4.1.3. Economic conditions

Malawi is an outlier in terms of economic development; it portrays features of conflict affected states, while it is in peace. States with similar geographical and demographical characteristics were in 1995 at the same level of Malawi's current development. Malawi is among the poorest countries in the world with 69.6% of the population living under the international poverty line

of $1.90 a day and 56.1% experiencing multidimensional poverty[7] . The gross domestic product of Malawi is $1.139 with this it gains the 184/189 spot (International Monetary Fund [IMF], 2017). However, it is expected to increase with a growth rate of 4.5% in 2017, compared to the 2.5% in 2016. This increase is the result of improved weather patterns, which contributes to a raise in agricultural production. The growing GDP is accompanied by high headline inflation rate of 22.8% in 2016, which hampers the country's development. The inflation rate dropped towards 9.3% in August, 2017 due to the reduction in food prices by a higher availability of maize at a steady exchange rate after the sincere drought of El Nino in 2016 (World Bank, 2017). Malawi's economy is dependent on its natural resources and mainly driven by agriculture. Agriculture counts for 30% of the gross domestic product, for 80% of the entire employment and 93% of earnings from export (WHO, 2014; World Bank, 2017). Besides this, Bollinger et al. (2000) reveal the potential of AIDS to have a severe impact to deteriorate a country's economy and highlight the specific example of Malawi. The high incidence level of AIDS/HIV+, a prevalence rate of 9.6% among ages 15 – 49 or in other words about 1 million people living with HIV in Malawi, has an impact on the active labour force to contribute to Malawi's economic development (UNAIDS, 2018). Altogether, Malawi's unstable macro economy and the inconsistent organisation of politics makes the country dependent on aid funding of institutions as the World Bank, IMF, WHO and other NGOs (CIA, 2018).

Furthermore, the country has to deal with unemployment issues, whereby 19% of the men are unemployed and 37% of the women (NSO & ICF, 2017). Most of the people who are employed are working in the informal sector (89%) compared to 11% in the formal sector (NSO, 2014). The average income per month is estimated at $114, however the median income is $37 per month (Government of Malawi, 2017). This is the result of the high income-distribution disparity in Malawi, with a GINI coefficient of 0.45 in 2011. Hereby the richest 10% of the population consumed 53% of the total consumption, while the poorest 40% counted for 13% of the overall consumption (Oxfam International, 2015). Compared to earlier GINI coefficients it seems that the inequality gap is reducing, however still remaining high. For instance, the GINI coefficient was 0.65 in 1997, whereby Brazil was the only country with a higher income-distribution disparity than Malawi (Conticini, 2004; World Bank, 2016a).

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[7] Full explanation of multidimensional poverty http://hdr.undp.org/en/content/multidimensional-poverty-index-mpi

4.1.4. Demography and socio-cultural background

The population of Malawi is estimated at 18,1 million in 2016 (World Bank, 2016b). According to United Nations Development Programme (UNDP) (2016) the Malawian population is rapidly expanding with an annual growth rate of 2.7% towards a population of 26.6 million by 2030. With this continuing population growth Malawi is becoming one of the most densely populated countries in Africa with a current number of 182,6 people per km^2 (World Bank, 2016b). This density causes pressure on Malawi's natural resources, such as land and water. The population of Malawi exists out of 50.5% females and 49.5% males. The population of Malawi is a young population with 64% under the age of 15 years and only 3% is 65 years and older. The majority of the population lives in rural areas, the urban population is only estimated at 16.3% (UNDP, 2016). However, Malawi is experiencing urbanisation, since it is expected to face an annual growth rate in urban population expansion of 4.3% up to 2030 (United Nations International Children's Emergency Fund [UNICEF], 2013).

The average household consists out of 4.5 members. Hereby there is hardly a difference between urban and rural areas (NSO & ICF, 2017). According to the 2015-2016 Malawi Demographic and Health Survey, there has been a small increase in FHHs from 28% in 2010 to 30.6% in 2015-2016. In the rural areas, there exist relatively more households with female headship (31.8%) compared to the urban areas (24.2%), where male headship makes up for ¾ of the household headship. Furthermore, FHHs are more apparent in matrilineal districts, because women from matrilineal systems responded to feel more at ease to initiate divorce processes, as well as men may lack the security to invest in the village they moved into and are less committed to the marriage (Kravis et al., 1991; Green & Baden, 1994; Mwambene, 2005).

Then, religion is an important aspect in Malawian society, 99.5% of the population reports themselves as religious in 2015. The large majority (86.9%) is Christian, which can be further divided into Protestant (27.3%), Catholic (18.4%) and other sub-religions belonging to Christianity (41%) (CIA, 2018). Besides this, 12.5% of the Malawian population is Muslim, whereby half of the Muslim population resides in the districts of Mangochi and Machinga and the rest near the coasts of Lake Malawi (United States Department of State, 2014).

In Malawi, the literacy rate is 82.4% for men compared to 72.1% for women. Here is a significant gender gap visible, which might be the difference in educational attainment between men and women. There is also a significant difference in literacy rate between urban (male: 96.1% and female: 90.4%) and rural areas (male: 79.9% and female: 68.0%). The large majority of the Malawian population over age 6 has ever attended school; 86% of the females and 92% of the males. However, only 5% of females and 9% of males have been able to complete

secondary school or further education. The average number of years of schooling has been increased compared to 1992, with the current number of 3.1 years for females and 3.9 for males in 2015-16. In 1992, the average number was 0 years for females and 1.9 years for males. Besides this, the average years of schooling differs geographically with the highest number of years in the Northern region (7.6 years for males and 4.6 for females) compared to the Central and Southern region (around 3.8 years for males and 3 years for females). The survey reveals as well that the years of schooling increases, when household wealth increases (NSO & ICF, 2017).

Malawi is on the 145th position out of 188 countries in the Gender Inequality Index of the United Nations (UNDP, 2016). Also, the 2015-2016 Malawi Demographic and Health Survey reveals issues of gender equality in Malawian society, for instance in education and employment, as well as in decision-making. 68% of the Malawian women is able to participate in (joint) decision making about their own health care, which has increase compared from 2010 (55%). This is, however, significantly lower than the number men (88%) who participate in the same decision about their health care. About half of the Malawian women (47%) is able to participate in all three common households' decisions; about their own health care, major household purchases and visits to family or relatives (NSO & ICF, 2017). In addition to this, Conticini (2004) reveals there exists an unequal access to health care services for women compared to men. He addresses reasons as i) lower levels of mobility for women, because of the burden of household work, ii) less control over the households' income, and iii) issues with reproductive health can be experienced as too sensitive to report.

4.2. Health care in Malawi
4.2.1. General health status
In 2015, life expectancy at birth was 64.8 for female and 62.9 for male (UNDP, 2016). Since the 1960s, there has been an increase of 65% in life expectance, whereof 43% of this increase took place in the past 15 years (World Bank, 2015). Life expectancy is an important health indicator, since it provides an indication for levels and patterns of total mortality within a population. Besides life expectancy, mortality rates give an insight into the progress of the total health of a population and gives an indication of quality of life and the country's socio-economic development (WHO, 2014; NSO & ICF, 2017). In Malawi, the maternal mortality ratio has dropped with 34% in the period 1990-2015 towards 634 out of 100.000 live births. However, due to the increasing population the amount of maternal deaths has been remained almost the same and therefore Malawi was not able to meet the millennium development goal

of improving maternal health (World Health Organization, 2015b). The infant mortality was 43 out of 1.000 live births and the under-five mortality rate was 64 out of 1.000 in 2015. Comparing those numbers to 1990, it shows a decline of 70% for the infant mortality rate and 74% for the under-five mortality rate (African Health Observatory [AHO] & World Health Organizations [WHO], 2016). With these ratios, Malawi is improving the national level of health somewhat and managed to meet the millennium development goal of 'reduce Child Mortality', however it still means 1 out of 16 children dies in Malawi before their fifth birthday (NSO & ICF, 2017).

According to the WHO the burden of disease in Malawi in 2012 was accounted for 76% by communicable diseases, 17% of non-communicable diseases and 7% of injuries. Whereby HIV/AIDS & Tuberculosis, lower respiratory infections, diarrheal diseases, malaria and Ischemic heart diseases are in the top 5 most deadly diseases. Non-communicable diseases are taking up an increasing amount of deaths in Malawi, but especially among the mature population. Most premature deaths are still caused by communicable, maternal, neonatal, and nutritional diseases(Institute for Health Metrics and Evaluation, 2017). The highest incidence rate for a disease is Malawi is the one of malaria, which comes down to 27.462 per 100.000 in 2012. Therefore, one of the main priorities of the Malawian MoH is the prevention of malaria and to establish effective treatments for malaria. This has resulted in a mortality rate of 63 per 100.000 in 2013. Next, for Tuberculosis, there is a prevalence (International Labour Organisation, 2000) of 334 people out of 100.000 in 2014, which shows hardly an improvement compared to 2000. However, the incidence rate had declined with 50% in the past 14 years (AHO & WHO, 2016). The 2015-2016 Malawian Demographic and Health Survey reports that there was a prevalence of 8.8% of HIV+ among adults of 15 to 45 years, whereof 10.8% is female and 6.4% male. The prevalence rate is double as high in urban areas (14.6%) than rural areas (7.4%), as well as it is higher among wealthier people (NSO & ICF, 2017). The HIV/AIDS incidence rate was 211 people per 100.000 in 2013, which shows a reduction of 78% compared to 2001. The number of deaths was somewhat higher than the incidence rate in 2013; 292 deaths per 100.000 (AHO & WHO, 2016). Another cause influencing the populations' health is the issue of malnutrition, especially among children. For instance, 37% of Malawian children are indicated as being chronically malnourished (NSO & ICF, 2017).

The total fertility rate is 4.4 children per woman, with 4.7 in rural areas and 3.0 in urban areas, this indicates a decline from 5.7 children in 2010. Reducing fertility levels have positive health consequences for a country. The Malawian Demographic and Health survey reveals that the

fertility rate drops when a woman has a higher education level. A woman with more than secondary education has 2.3 children on average compared to 5.5 children for a woman without any education. Most women (91%) were delivering in institutions, such as clinics or hospitals, in 2015-2016, compared to 55% in 1992 (NSO & ICF, 2017).

4.2.2. Structure of the health care system

The Malawian health care system is structured by different actors across different levels of health care (Government of Malawi, 2017). First of all, health care services are provided by a range of actors:

- Public actors: all the facilities provided by the Malawian government, such as those from the MoH and the district, town and city councils. These facilities are all free of charge.

- Private for profit actors: all private hospitals, pharmacies, clinics and laboratories. Traditional healers also belong to this group according to the MoH. At most places user fees are implemented

- Private not for profit actors: all non-governmental organisations, religious institutions and statutory corporations and companies (Government of Malawi, 2017). The biggest actor in this sector is the Christian Health Association of Malawi (CHAM); providing about 29% of all national health care services according to the MoH and 37% according to CHAM themselves (Ministry of Health & ICF International, 2014; Christian Health Association of Malawi, 2017). Some of these facilities also charge user fees (e.g. CHAM).

The actors collaborate with each other to a certain extent. For instance, the MoH has Service Level Agreements with about 103 CHAM facilities (at 30th of March, 2017) to make them able to deliver essential health care services to the local population for free. These agreements mean that the MoH will cover the costs for certain services from CHAM that are included in the Essential Health Package, e.g. family planning, HIV/AIDS, malaria treatment, to make health care also accessible for the poorest people in the catchment area of CHAM. During the interviews, it became clear that these agreements are not working as efficiently as is proposed, since the MoH often lacks budget to pay those services of CHAM.

Then, the corporation between MoH and traditional medicine is weak and not formally present, except for the fact that MoH and other stakeholders have prohibited the use of TBAs by charging fines whenever someone makes use of them (Government of Malawi, 2011). This was confirmed during the interviews with one of the nurses in Chimembe, one of the HSAs in Chitekesa and also by one of the national HCPs. Moreover, the collected data acknowledges

there exists little collaboration between traditional and modern health care. Only the traditional healer referred potential HIV+ or Tuberculosis patients to the modern health centres.

Secondly, the system consists out of four levels of care; the community, primary, secondary and tertiary. These levels of care are linked by a referral system, whereby the community refers to the primary, the primary to the secondary and the secondary to the tertiary level of care. The community level encompasses service delivery by HSAs, dispensaries, village clinics, maternity clinics, traditional and religious healers and health posts. The main activity of HSAs is to provide preventative and promotive health care, such as immunisation services and counselling, through e.g. village and outreach clinics, mobile clinics or door-to-door visitations. Each of them should be responsible for approximately 1,000 residents (Government of Malawi, 2017). However, the data collection in Chimembe revealed a catchment area with the size of 23.000 people divided over nine HSAs, which means 2,556 residents per HSA.

The primary health care level is represented by health centres and community hospitals where medical assistants, pharmacy assistants, nurses and midwives are present. These provide mainly outpatient and maternity services to the community and are aimed to have a catchment area of 10.000 people. Community hospitals are somewhat bigger and offer in addition also inpatient services (Government of Malawi, 2017).

At the secondary level one can find district hospitals, both from MoH and CHAM, with medical doctors and clinical officers. There should be one of those in each of the 28 districts in Malawi. They have a capacity of 200-300 beds and deliver both outpatient and inpatient services. These facilities are managed by the District Health Management Team (DHMT) as outcome of the Decentralisation Act 1997 (Government of Malawi, 2011).

The tertiary level of care contains the central hospitals. Malawi has four of these hospitals; Mzuzu in Mzimba district (300 beds), Zomba in Zomba District (450 beds), Kamuzu in Lilongwe district (1200 beds) and Queen Elizabeth in Blantyre district (1250 beds). These hospitals are designed to deliver specialist services, but in practice 70% of their services are primary or secondary health care services (Government of Malawi, 2011, 2017). Table 3 provides on overview about the distribution of the different levels of care among the different actors in Malawi.

Lastly, there is the central level, executed by the Ministry of Health, which involves e.g. policy making, monitoring and evaluation, strategic planning and assurance of quality. The current focus lies by reducing infant- and child mortality and malaria-related morbidity and mortality (WHO, 2014). The MoH delegates certain tasks to the five Zonal Health Support

Offices who are there to deliver technical support to the DHOs. The DHOs oversee, guide and support all the modern public health facilities at the secondary, primary and community level (Government of Malawi, 2017).

Table 3. Overview of health facilities in Malawi (UNICEF, 2016)

Facility Type	CHAM	Government	NGO	Private	Total
Dispensary	4	49	4	30	87
Health Centre	107	413	4	18	542
Health Post	18	132	2		152
Hospital[11]	38	45	1	1	85
Outreach	968	4,008	43	71	5,090
Village Clinic		3,542			3,542
Total	1,135	8,189	54	120	9,498

The developments in the Malawian health care system are guided by the Strategic Plan 2017-2022 developed by de Government of Malawi (2017). This plan reveals that there exists an extensive shortage in human resources within the health care system. There are in total 19.266 health workers employed with a remaining vacancy rate of 33% in 2016-2017. However, the current population growth demands even more health workers; 34.557 health workers in 2021-2022. An overview of the vacancy rate for clinical staff at MoH and CHAM facilities in 2016 is provided in table 4 (Government of Malawi, 2017). The Annual Review Report of the Health Sector 2014/15 even states a vacancy rate of 52% in 2012 (MoH, 2015). This number of about 50% has also been mentioned by one of the national health care providers during the interviews.

This means that the current doctor-patient ratio is very high of about three doctors, midwives and nurses per 10,000 people in 2010. This doctor-patient ratio makes Malawi one of the WHO's priority countries, since they require 23 doctors, midwives and nurses per 10,000 people to provide essential health care services (WHO, 2010; Government of Malawi, 2017).

Table 4. Vacancies of clinical staff for MoH and CHAM

Cadre	Establishment[44]	Filled	Vacant	% Vacant
Medical Officer	398	284	114	29%
Clinical Officer	3,135	1,159	1,976	63%
Nursing Officer	3,275	1,098	2,177	66%
Nurse Midwife Technician	8,626	3,475	5,151	60%
Medical Assistant	1,506	1,199	307	20%
Pharmacy Technician	1,063	218	845	79%
Lab Technician	1,053	397	656	62%
Health Surveillance Assistants	6,699	9,468	(2,769)	-41%
Total	25,755	17,298	8,457	33%

Next, the government's policy is to have a health facility within an 8-km radius, either a public one or a CHAM facility with a service level agreement, to ensure accessible and free-of-charge health care within tolerable walking distance for every household (Government of Malawi, 2017). This does not mean that the participant is obliged to visit the health centre it 'officially' – according to the government – belong to. However, in practice, almost two million people (about 10% of the Malawian population) were not living within this 8-km radius in 2016. The situation has improved from the situation in 2011 where 19% was not living within the radius. However, it remains an severe issue, since a part of the population remains underserviced and in addition, 56% of adult women still mentioned distance as a threat to their health care accessibility (NSO & ICF, 2017). See figure 3 for an overview of which districts have difficulties to provide health care within the 8-km radius (Government of Malawi, 2017). Especially, the districts with the orange and red colours; Chitipa, Kasungu and Mzimba reveal challenges. My selected study sites Blantyre and Phalombe indicate that almost everyone in the district is living within the 8-km radius, however the data of this study shows this is not the case.

Figure 3. Proportion of population living within 8km of a health facility (UNICEF, 2016)
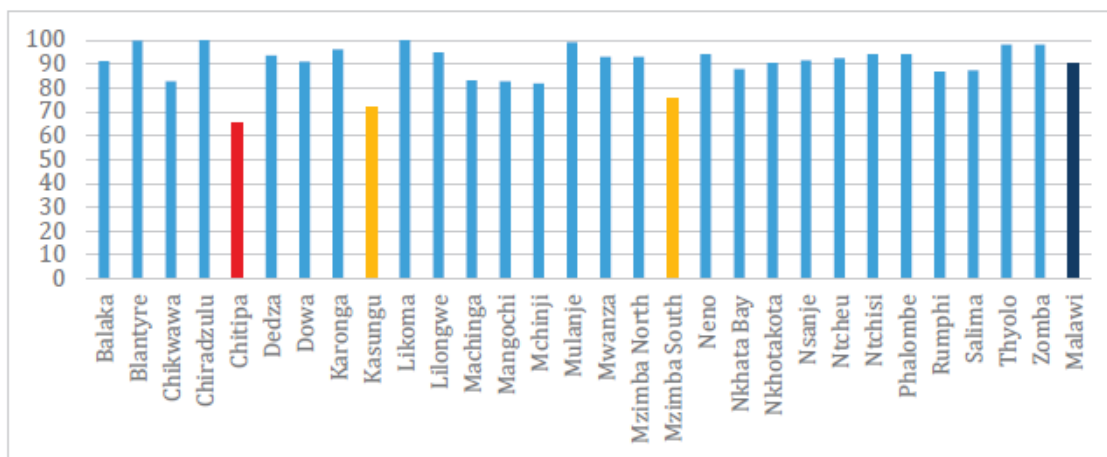
4.2.3. Funding of the health care system

The Malawian health care system is mainly financed by external donor partners (61.6%). Besides this, the government contributes for 25.5% and the Malawian households for 12.9% of the expenses in the period of 2012-2015 (see figure 4). The national insurance scheme hardly plays any role here, since only 1% of the women and 2% of the men in the age of 15-49 have a health insurance coverage (NSO & ICF, 2017). There immense reliance on external donors

makes the financial resources of health care services unstable and uncertain, since those donors might withdraw their funds when those will not be spent according to their agenda[8].

The government shows a higher extent of commitment to investment in the health sector by spending a higher amount of the total government expenditure towards healthcare. The governmental total health expenditure as part of the total government expenditure has risen from 6.5% in 2009/2010 towards 10.8% in 2014/2015 (Government of Malawi, 2017). However, the total health expenditure per capita remains low with $40.1 on average from 2012-2015, this is far behind the average of $147 in the Southern African Development Community region (Ministry of Health & ICF International, 2014).

As a consequence of the low total health expenditure the financial requirements to fulfil the government's Health Sector Strategic Plans are not met. For the strategic plans of 2011 - 2016 was required three times more money than the available governmental health budget. Most of the financial resources are spend upon the provision of medicines. This results hardly in any progression to achieve the other strategic goals of the government (Ministry of Health, 2015).

Figure 4. Health care financing trends by source (Government of Malawi, 2017)
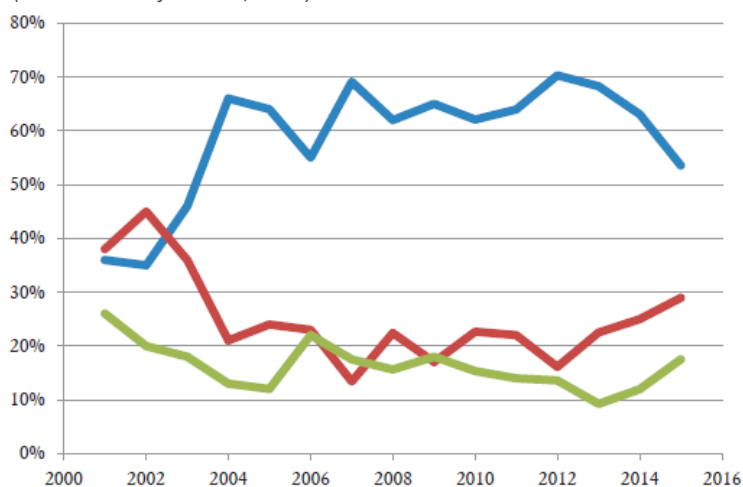
4.2.4. Current Malawian health care policies and plans

This section gives an overview of the existing policy documents, strategic plans and reports from a variety of actors addressing the current health care situation of Malawi. Table 5 shows an overview of existing documents, however this overview is based on an internet search and therefore disclaimed to be extensive of covering all existing health care policy documents in

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[8] Cashgate scandal in 2014: $250 million has been estimated to be stolen by corrupt public officials, which caused a withdrawel of funds by donors https://www.bbc.com/news/world-africa-25912652

Malawi. The documents I determined to be most relevant for health care policy development in Malawi have been briefly described in the rest of this section. I have selected a few documents as most relevant, since they are the most recent and explanatory documents about the Malawian health care environment I encountered. This has allowed me to obtain a more comprehensive understanding of the health care system, as preparation for the fieldwork.

Table 5. Overview of Malawian health care policy documents (personal creation)

	Name	Author/Publisher	Year of publication
1.	Health Sector Strategic Plan II 2017-2022	Government of the Republic of Malawi	2017
2.	National Community Health Strategy 2017 – 2022	Ministry of Health	2017
3.	Building Sustainable Church-Based Health Care in Malawi: 2015-2019 Strategic Plan	CHAM & USAID	2015
4.	Malawi National Health Information System Policy	Ministry of Health	2015
	Malawi Service Provision Assessment 2013-2014	Ministry of Health and ICF International	2014
5.	Malawi National Health Policy	Government of Malawi	2012
6.	National Policy Measures and Requirements for the Improvement of Health Research Co-ordination in Malawi	National Commission for Science and Technology	2012
7.	Malawi Health Sector Strategic Plan 2011-2016	Government of Malawi	2011
8.	Malawi Private Health Sector Assessment	USAID	2011
9.	CHAM Strategic Plan 2010-2014	CHAM	2010
10.	Human Resources Development (HRD) Policy for the Public Health Sector	Ministry of Health	2010
11.	Human Resources for Health Country Profile Malawi	WHO, European Union, Management Sciences for Health	2010
12.	Impact Evaluation of the Sector Wide Approach, Malawi	Mark Pearson	2010
13.	Human Resources for Health Strategic Plan 2007-2011	Ministry of Health	2007
14.	Survival and retention strategies for Malawian health professionals	European Network of Equality Bodies	
15.	A joint Programme of Work for A Health Sector Wide Approach [2004-2010]	Ministry of Health	2004
16.	Macroeconomics and Health in Malawi: What way Forward	World Health Organization	2004
17.	Malawi National Health Physical Assets Management Policy	Ministry of Health and Population	2002
18.	Malawi Fourth National Health Plan 1999-2004	Ministry of Health and Population	1999

19.	To the year 2020: a vision for the health sector in Malawi	Ministry of Health and Population	1999
20.	Malawi Health Sector Strategic Plan; Rationalization, Equity and Quality in Health	Ministry of Health and Population	1997
21.	Health Policy Framework	Ministry of Health and Population	1995
22.	Public Health Act	Government of Malawi	1948

The foundation of Malawi's health care development policies and plans lies in the Public Health Act of 1948. Afterwards, different policy frameworks and plans were developed, during the first democratically elected government in 1994, such as the 'Health Policy Framework' and 'To the year 2020: a vision for the health sector in Malawi' (Ministry of Health and Family Planning, 1995; Ministry of Health and Population, 1999). In 2004, the first document appeared which aimed for a sector wide approach to reform the health care sector; 'A joint Programme of Work for A Health Sector Wide Approach [2004-2010]'. This programme called for decentralisation of the health care system and for the introduction of the earlier mentioned Essential Health Package.

The attention for decreasing the burden of diseases changed towards promoting the importance of healthy lifestyles within the community (Ministry of Health, 2004). After 2010, a new plan was developed to follow up on the goals of the Health Sector Wide Approach. This plan was called the: 'Health Sector Strategic Plan I 2011-2016' (Government of Malawi, 2011). The most recent document of the Ministry of Health was introduced in July 2017: the 'Health Sector Strategic Plan II 2017-2022'. This strategic plan follows up the earlier introduced 'Malawi Health Sector Strategic Plan 2011-2016'. These plans are designed to be the "most important points of reference for design of service delivery programmes, addressing social determinants, resource mobilization and health financing" by outlining several strategies (Government of Malawi, 2017, p. X). The specific goal of the second strategic plan is: "to move towards Universal Health Coverage of quality, equitable and affordable health care with the aim of improving health status, financial risk protection and client satisfaction" (ibid, p. 27).

Next to the MoH, also CHAM has published strategic plans. One for the period of 2015-2019, presenting the association's goals, financial plan and implementation arrangements. Another one addressed the period of 2010-2014. The aim of the most recent plan is:

"to learn from our mistakes, especially from the past 10 years, and to harness strategic opportunities to rebuild and reposition ourselves as a modern, sustainable and efficient association. This will require implementing fundamental changes in CHAM at governance and management down to the service delivery level." (CHAM & USAID2015, p. vi)

These strategic plans of both MoH and CHAM form the guidelines of planning and development processes of the Malawian the health care system in order to tackle the obstacles, it has been facing. Both plans mention challenges as supply of sufficient essential medicines, shortage in human resources, financial management and sustainability, as well as efficient and strong communication within and among sectors. In addition, CHAM mentions the issues of unclear delineation of responsibilities and roles in government structures, too little usage of information technologies and a greater need for networking and advocacy (CHAM & USAID, 2015). Furthermore, the Health Sector Strategic Plans II 2017-2022 reports about weaknesses in the referral system, insufficient universal coverage, need for an appropriate focus upon social determinants of health and a stronger monitoring and evaluation system (Government of Malawi, 2017).

Altogether, this introduction to the Malawian health care system and its existing health care policies gives an insight in which obstacles in health care accessibility are on the radar of the policy makers. It has become visible that obstacles at the supply side of the health care system have been extensively incorporated in these health care policies. On the other hand, hereby, obstacles at the demand side of the health care system remain rather unnoticed by policy makers and are therefore hardly involved in the current health care policies.

4.3. Study sites

The previous section has given a brief overview upon the wider Malawian context and more specifically its health care system and existing health care policies. In this study, I have focused at only two health centres and their catchment areas to allow myself to explore the situations more extensively. The case study areas of focus are Chimembe health centre in the rural parts of Blantyre district and Chitekesa health centre also in rural Phalombe district. In this section, the selection of those two different case study areas is further explained and justified, whereby the specific background of the two chosen districts is sketched.

4.3.1. Justification of the case study areas

The two health centres of Chimembe in Blantyre and Chitekesa in Phalombe have been selected based on the performance of quantitative analyses with previous collected data from the EquitAble project. Data of eight health centre catchments areas, situated in four different districts has been used to identify the catchment areas with most significand divergence between perceived and measured access.

Figure 5. Map of the potential study sites (personal creation)

The four study sites consisted out of 1) Phalombe and 2) Blantyre in the southern region, 3) Ntchisi in the central region and 4) Rumphi in the northern region (see figure 5). According to Swartz et al. (2011) the districts of Phalombe, Ntchisi and Rumphi have been selected during the EquitAble project, because of the cultural variety they inhabit. Blantyre was added as fourth area to represent closer proximity to an urban centre in comparison to the other three rural areas, however the health facilities in Blantyre districts were still located in rural settings. Within each of those four districts, two health facilities have been selected during the EquitAble project with the help of the District Health Officer. In the end, data was collected within the catchment area of those health centres (Swartz et al., 2011).

During the EquitAble project, quantitative data upon perceived access to health care services of an extensive number of households have been collected (n=3526), as well as GPS-coordinates from the participating households. To ensure anonymity of the survey participants, the GPS coordinates have been offset by a certain distance, so the outcomes cannot be directly traced back to the corresponding survey participant. In this study, the GPS-coordinates have been used to analyse the measured access of Malawian households to and from health care services. This has been done by taking variables as type of terrain and distance into account. The actual walking distance from the patients' respective homes in time to the health care

facility and back have been indicated with Path Distance tool in ArcGIS. Afterwards the mean of these two distances has been stored as the new variable of 'measured access'. Then, the mean of all value of the new variable was calculated, which allowed me to make a distinction between cases with good or poor measured accessibility.

Next to this, the perceived accessibility has been established by taking as bases the responses on several questions from the EquitAble survey about access and obstacles to health care (see annex 6), as well as paying attention to socio-demographic variables. However, hereby no specific selection has been made to only incorporate the responses of FHHs, simple because the sample size appeared to be too small to give a representative view. 433 Malawian FHHs were involved in the survey, however only seven had answered which obstacles they faced regarding accessibility. The combination of these outcomes formed the new created variable of perceived access. The median of this new variable of perceived access allowed me the median allowed me to divide the households in having either good (low value) or poor (high value) health care access.

Now, I was able to identify the household which either perceived good or bad accessibility and good or poor measured accessibility. I grouped those households according to table 6 to obtain an insight were perceived and measured access differed from or confirmed each other. This resulted in four different possibilities as outcomes for the individual households of their perceived and measured access; A, B, C and D.

Table 6. Possible results of measured and perceived access

		Perceived access	
		Good	Poor
Measured access	Good	A	B
	Poor	C	D

The categories of B (poor perceived access and good measured access) and C (good perceived access and poor measured access) reveal a difference between perceived and measured access and are therefore considered of interest for this study. These categories B and C were still present in all four study sites; therefore, another step was required. This step included the identification of significant clusters of households with similar high values (hot spots) or cold values (cold spots) in each of the four areas by making use of local statistics, Getis-Ord Gi. This clustering of the high and low values was most significant in the districts of Blantyre and Phalombe and thus have I decided to focus on these areas. For Blantyre, a hot spot for measured accessibility with 99% coincidence level (poor measured accessibility) corresponded with a cold spot for perceived accessibility with 95% coincidence level (good perceived accessibility) at both of the health centre catchment areas: C1 Chileka and C2 Chimembe (see figure 6). For the case of Phalombe the opposite became present, the difference was somewhat smaller,

Figure 6. Study sites showing divergence at Blantyre district (GeoHealthAccess team, 2017)
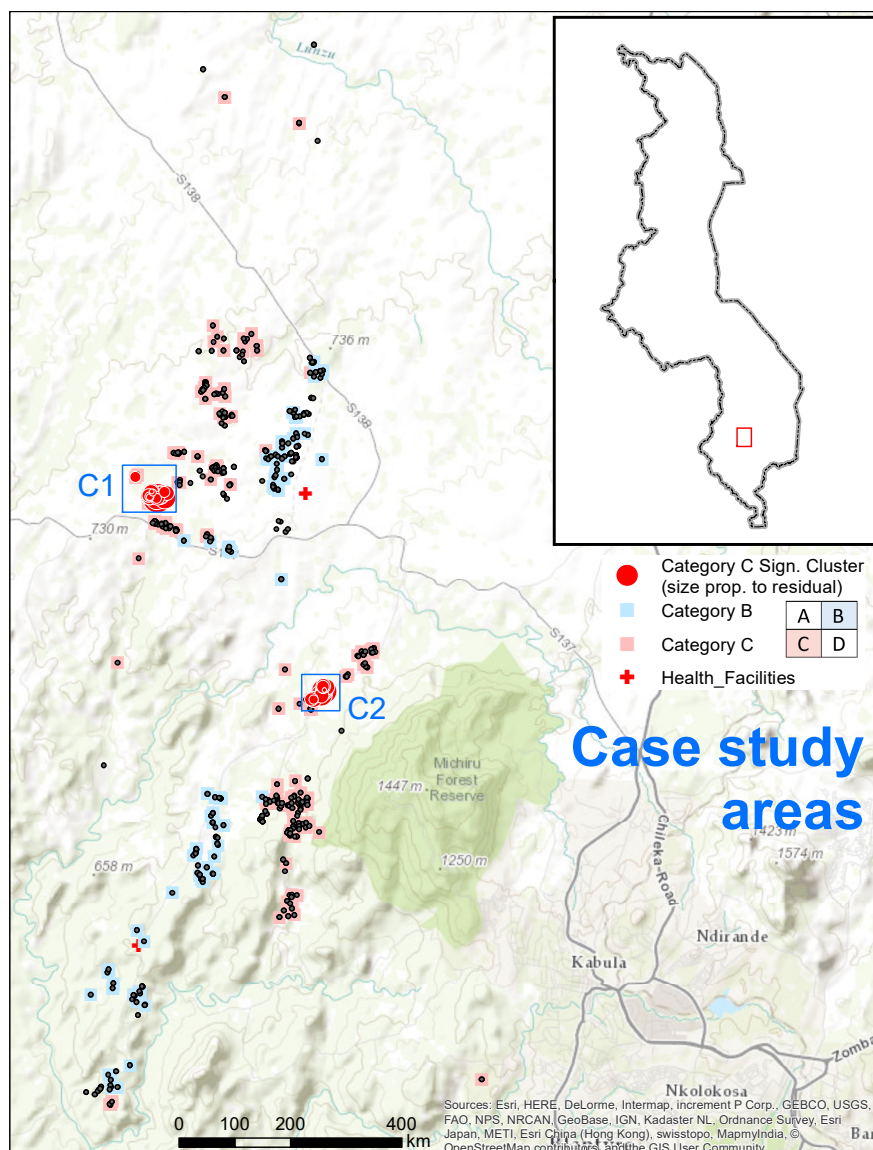
however significant with a cold spot for measured accessibility with 95% coincidence level (good measured accessibility) collocating with a hot hotspot of perceived accessibility of with a 90% coincidence level (poor perceived accessibility) (see figure 7). These findings of the study sites of Chitekesa, Chileka and Chimembe revealing a difference between perceived and measured accessibility have confirmed by the statistical analyses and maps created by the SINTEF team.

After all, the decision was made by the research team to only focus on one of the two health facilities in the Blantyre district; which has been Chimembe. This decision was taking after the first batch of data collection, whereby the respondents already provided us with substantial information to explore their challenges and opportunities regarding the divergence between measured and perceived access. By outweighing the additional time and efforts required of the community members and health workers, to the added value of involving another study location, we came down to this conclusion to adhere to one health facility in each district.

Figure 7. Study site showing divergence at Phalombe (GeoHealthAccess team, 2017)
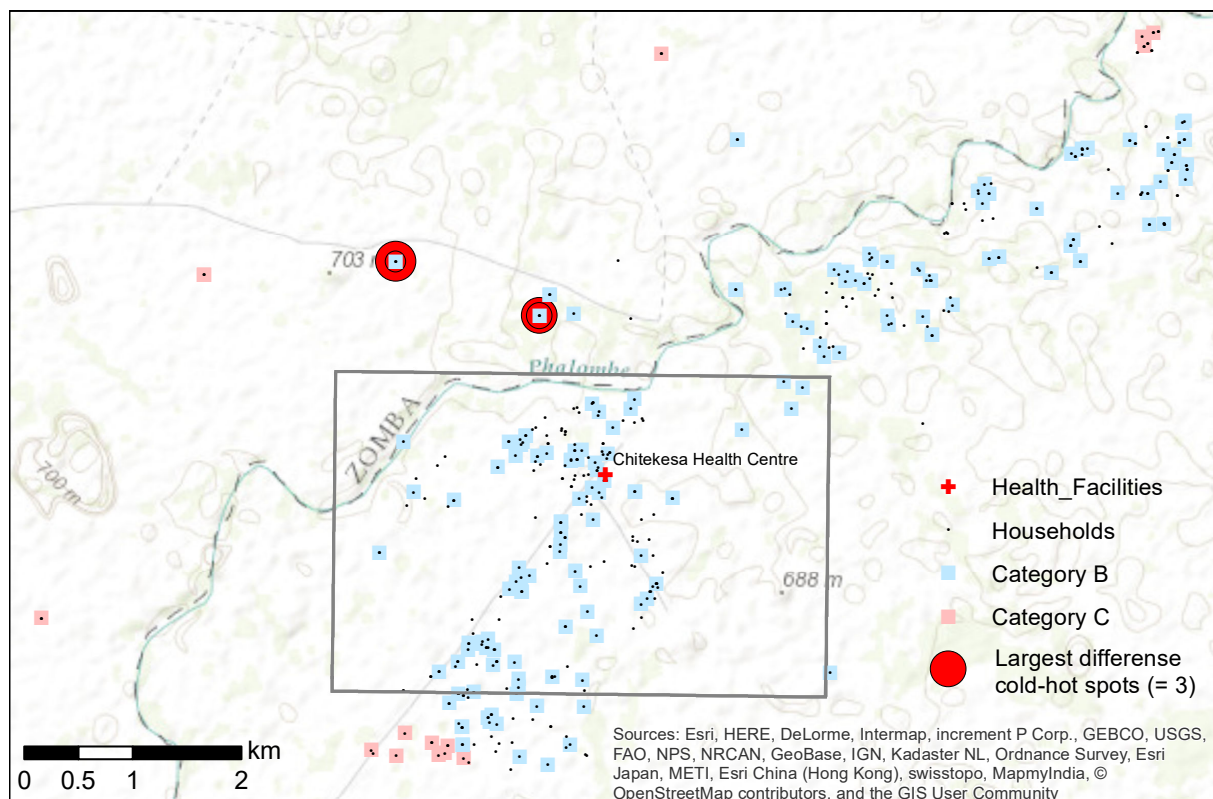
This section has shown that Blantyre and Phalombe district show a variety in measured and perceived accessibility scores. Furthermore, they also differ in terms of development and health situation. This difference is elaborated in the next section.

4.3.2. Blantyre

This is a district in the Southern Region of Malawi with a matrilineal system. The district is named after the city of Blantyre, which is the capital of the 2,012 km² region. This indicates that next to the city, a big part of the Blantyre district consists out of rural area. The city Blantyre is the biggest commercial city of Malawi and was founded by Scottish missionaries on 13th of October, 1876. The district and the city of Blantyre share the name of the town Blantyre in Scotland. This is the village where Dr. David Livingstone was born, one of the first missionary explorers of Malawi. The district has an elevation ranging from 780 to 1612 meters above sea level. There exists a variation in topography from several small hills and mountains to rather flat areas (Blantyre City Assembly, 2000).

The district has an estimated population of 999.491 people in 2008 (United Nations Office for the Coordination of Humanitarian Affairs, 2015). Similarly to the rest of Malawi, Blantyre has a young population whereby 2/3 of the people are under the age 25 (Population Reference Bureau, 2014). The Demographic and Health Survey of 2015-16 shows that the district is ahead of other districts in Malawi in terms of development. For instance, the median years of schooling completed by a woman in the Blantyre district is 7.9 years and for a man 8.7 years, while for the total of Malawi this is respectively 5.6 and 6.6 years. In relation to this has Blantyre a higher literacy rate for both women (87.3%) and men (90.6%). Furthermore, the Demographic and Health Survey reveals more women (13.5%) and men (33.2%) have used internet in Blantyre than in the rest of the country with 6.3% for women and 19.5% for men. However, in terms of current employment, scores Blantyre lower (women = 44.1% and men = 66.7%) than the total of Malawi with 62.6% for women and 81.1% for men (NSO & ICF, 2017).

In terms of infrastructure is the Blantyre district also ahead of the other districts in Malawi. For instance, 40.2% of the population has electricity compared to 10.7% in the whole of Malawi. And slightly ahead in terms of drinking water so had 10 % and unimproved source of drinking water compared to 12.8% in total Malawi (NSO & ICF, 2017).

Moreover, concerning the health care situation, the district has an under-five mortality ratio of 67 out of 1,000 children. This means that every 5,5 hours there is one death in the district (Population Reference Bureau, 2014). This is somewhat lower than the total for Malawi (73 per 1.000). 69.9% of the district its population report to have at least one problem with

accessing health care, whereof 48.9% refers to the distance to the health facility and 46,3% to getting money for treatment (NSO & ICF, 2017).

4.3.3. Phalombe

The second district for this study is quite the opposite of the Blantyre district, both regarding the opposite divergence between measured and perceived accessibility, as well as in terms of development. Blantyre is on average further developed than the rest of Malawi; the Phalombe district staying behind.

The district of Phalombe is one of Malawi's youngest district, since it was until 1998 together with Mulanje district. Phalombe is located in the Southern Region and also has a matrilineal system. The capital is Phalombe and the district covers an area 1394 km² (NSO2008). The district is situated somewhat lower than Blantyre around 750m and is relatively flat. On average, it is somewhat hotter in Phalombe than in Blantyre.

The district has an estimated population 313.129 people in 2008 with a similar proportion of young people as Blantyre: 2 out of 3 (NSO2008). The educational attainment years and literacy rates are lower compared to those of the whole of Malawi. The median years of schooling completed by a woman in the Phalombe district is 4.6 years and for a man 5.3 years. The literacy rate for women is 69.4% and for men 79.0% in Phalombe. Besides this, the Demographic and Health Survey shows that the internet usage is also a lot lower in the Phalombe district. Only 0.8% of women and 7.8% of men has ever have used internet compared to 6.3% for women and 19,5% for men in the rest of the country. The current employment rates are significantly high in Phalombe (women = 81.4% and men = 89.9%) compared to the total of Malawi with 62.6% for women and 81.1% for men (NSO & ICF, 2017).

Electricity is something rare in the Phalombe district, only 2.7% of the population has access to electricity. Access to an improved source of drinking water is more common, but still 17.9% of the population in Phalombe uses an unimproved source for drinking water, which is slightly more than the national amount of 12.8%. (NSO & ICF, 2017).

In addition to the previous statistics, the health care situation is also less developed than in the rest of Malawi. The under-five mortality ratio is 97 out of 1.000 children in the Phalombe district. This means that every 4 hours there is one death among the under five children within the district (Population Reference Bureau, 2014). Besides this, 84,5% of Phalombe's population states to have at least one problem with accessing health care, whereof 64,6% refers to the distance to the health facility, 46,6% not wanting to go alone and 72,2% to getting money for treatment (NSO & ICF, 2017).

Chapter 5: The lived experiences of female headed households in the Malawian health care environment

This chapter gives an insight in how the concept of FHHs may be understood in the Malawian health care environment, based on the qualitative data derived from the FGDs and in-depth interviews with self-reported FHHs, as well as the interviews with health care providers. As the theoretical framework has shown the concept of FHHs and their health care accessibility has been a relative untouched topic in both Malawian policy-making processes as in the existing academic literature. On the other hand, the subgroup of FHHs have been identified by some scholars as one of the vulnerable societal groups (Onah & Govender, 2014; Masanyiwa et al., 2015).

Considering this all, I believe a better comprehension of the concept of FHHs and their lived experiences in the Malawian health care environment may be of value. It may enhance the richness of understanding the issues at stake in the difference perceived and measured accessibility to health care services, as well as this enhanced understanding might contribute to more effective health care policy-making. This section will comprehensively describe whether the concept of FHHs, as has been understood in the health geography literature, resonates with the lived experiences of FHHs in the Malawian context.

During the data analysis process, I have divided the collected data into six categories, all emerged from the qualitative data of the FGDs and interviews, in order to enhance my sense making of the lived experiences of FHHs in Malawi. Some of these categories were again divided into smaller categories – codes – and also sub codes. Figure 8 gives an overview of the developed codes.

Figure 8. Overview of the emerged codes

Theme: being a FHH

Category	Codes	Sub codes	Number of sources referring to the category/ (sub) code	Total amount of references to the category/ (sub) code
Change from husband to FHH			6	8
Common in the community			11	12
Difficulties FHH experience			18	47
		Emotionally	*1*	*1*
		Not physically strong	*3*	*3*
		Own health conditions	*2*	*2*
		to access healthcare	*12*	*16*
		to find money	*11*	*13*
		to provide everything	*13*	*18*
Feelings of being FHH			18	79

	All responsibilities with the woman		12	38
		Decision-making	3	3
		Earning income-Farming	7	14
		Family is healthy and doing good	4	4
		providing food	7	10
		Taking care of kids	5	8
	Discrimination - Treated differently within the community		5	5
		Not treated as a special group	11	16
	Not a choice		1	1
	Peace of mind		3	3
	Thing of honour		1	3
Help from others			10	21
	None		6	7
	Others		2	3
	Possibilities		3	3
	Relatives		4	8
Support with other FHH			5	12
	None		5	6
	Possibilities for support		4	6

Before further exploring those different categories and codes, this chapter will first provide some sociodemographic information about the involved FHHs to obtain an understanding what types of FHHs are part of the study. Then the lived experiences of FHHs are unravelled and elaborately explored through the perceptions of female heads, village headmen and health care providers. And lastly, this chapter finalises with a discussion of the concept of FHHs is valuable to use in Malawian health care policy making.

5.1. Sociodemographic information

During the data collection 16 FHHs have been involved; one FHH has participated in both a FGD and an interview, eleven other FHHs participated in the FGDs and again four other FHHs in the interviews. Of these women, seven women reported to be divorced, four women to be widows, three women to be separated (with a range of being separated from five to nine years) and two other women were still married, however their husbands were away from home at the moment for work, so they were the decision makers and caretakers of the whole household. Then, the youngest participating female head was 22 and the oldest 71, with a median age of 34 years old and an average participation age of 40,4 years old (n=16). The average number of children per household was stated at 4.2 with a median of 4.0, whereby the smallest household consisted out of two children and the largest out of seven (n=16). The highest level of education varied highly among the participants, however, the majority of participants could be described as low-educated: from no education at all (n=2) to attending solely primary school (n=7), to attending secondary school (n=3) up to finishing the highest level of secondary education (n=3).

The women revealed some variety in ways to acquire their income: most of the women were active in casual labour (n=9), which regularly meant agricultural piece work, also described as Ganyu[9]. Moreover, one woman mentioned she was a business lady, another woman was a counsellor for the TA and also one woman earned an income through selling baked goods. Four of the women did not have an occupation or source of income.

Furthermore, I tried to uncover the frequency those FHHs made use of health care services, however I experienced it was challenging for them to frame this concretely. In Chimembe, one of the FHHs mentioned she would visit maybe the health facility about six times in three months, this included the care needed for her children. In Chimembe, one female head responded it was four years ago the last time she went there for herself, since afterwards she would just buy the drugs herself. Two other FHHs mentioned about once in three months, whereby one also uncovered she would sometimes just buy her own medicines instead of visiting the facility. The other FHHs I have spoken were not able to give an indication of their health care utilisation.

Then, it has been difficult to make sense whether FHHs are regularly seen in the area or regarded as an exception. For instance, at the health facility of Chimembe, five out of six health care providers stated there were just a few FHHs in their catchment area, while three of the FHHs expressed that there were many FHHs residing in their community. This might indicate a different understanding upon the term among FHHs themselves and health care providers, which is further uncovered in the next section. In Chitekesa, the answers of the respondents were more aligned by stating a lot of FHHs were present in this area. One of the explanations for this was the proximity of Lake Chilwa, which attracted a lot of men for employment, who in the end regularly did not return back to Chitekesa and left their household behind.

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[9] The word 'Ganyu' is widely used in Malawi to describe a range of short-term rural labour relationships, the most common of which is piecework weeding or ridging on the fields of other smallholders, or on agricultural estates (Whiteside, 2000, p. 1).

5.2. Unravelling the concept of female headed households

5.2.1. Perspective of village headmen

The sociodemographic information about the involved FHHs already provides an interesting insight in how the concept of FHH was understood in the areas of Chimembe and Chitekesa. Since, the team and I approached the village headman of the communities to assist us in gathering FHHs for the FGDs, the women who attended the FGDs can be considered as a reflection of the village headman's understanding of the concept of FHH.

Both village headmen reported it was not challenging to find FHHs to participate in the FGDs, since there were many in their community and the fieldwork was timed well, still before the agricultural work started. However, it is possible to identify a certain divergence in the understandings of both village headmen. In Chimembe, the village headman's sample existed out of divorced, separated and widowed women, or in other words de jure FHHs, since no male is residing in the household (Chant, 1997; Fuwa, 2000). While in Chitekesa, also two women attended the FGD who did not fulfil the definition of a de jure FHH, but actually related to de facto FHHs. There was still a male contributing to their households, although he was not residing in the household during the time of the FGD. This seem to indicate that the village headman in Chitekesa employed the concept of FHH more broadly, whereby he involved also women who claimed the status of female head based on their authority in decision-making processes. This shows already the ambiguity of the concept, which makes it more difficult to design effective policies or targeted approaches, since the delineation of headship is not clear (Hedman et al., 1996; Rogan, 2013).

       The next section will highlight the perceptions and understanding of female heads themselves, which might give a more elaborate insight in how the term can be understood and be of use for policy makers.

5.2.2. Lived experiences of female heads

During the FGDs, but mostly during the interviews, the women expressed how their living circumstances were as a female head and what feeling and issues they faced. Some respondents explicitly mentioned they were wearing the label of FHH with proud: "*it is a thing of honour (mtengo wapatali), because everything is with the woman.*". And "*it is a hard and honourable thing for a woman to be able to handle such responsibility.*". Some stated they were facing a

better situation, since their husband has left, because they have now "*peace of mind*", because "*the husband was not working either*".

Nonetheless, not everyone valued their status like this, some frankly admitted it were tough circumstances they were facing. One reported: "*It is not a good thing to be a female head, but I just do it, because it happened to me. It is not a choice*". Some other were longing back to the time there was male residing at the household, since they did not have to deal with the amount of challenges they are currently facing. In those households, the husband was financially taking care of the household, whereby the woman had as main responsibility to take care of the children. One FHH also reported for her it was emotionally very challenging to be a female head of the household after the divorce.

All of the FHHs mentioned several challenges they were facing in their daily life. Among most of them the heavy burden of carrying the full responsibility for the households was mentioned. So, did one of the FHHs state, during the FGD in Chimembe, she had to take care of all the responsibilities and had to make all the decisions for the whole household, which made her feel very busy. "*It is like you have the family on your shoulders and most times it may be hard to find things [money].*" During the other FGD in Chitekesa also the challenge of being completely responsible was reported: "*You have to be on your feet all the time to ensure that you fend for your family. If you sit back things don't work out. ... It is a big burden*". Another woman admitted she had to push herself to do everything, because of all the responsibility she carried.

One woman in Chimembe highlighted specifically to feel this heavy burden in relation of caretaking for her children. "*For the kids to be well taken care of, it's me. For them to eat and to look good it is all on me. For them to look like someone's kids, I pressure myself to provide for them, since I have no husband. ... It keeps me busy, since am the head. The woman and the husband myself. So am always very busy so that my kids look like they have a father too but yet they do not have a father.* This former quote highlight the wish of the FHH that her children did not need to experience any of the same struggles as she was experiencing herself. This challenge of being a good mom for the children has been confirmed by many of the other FHHs. They stated it was a struggle to supply the children with sufficient food, to make sure they were healthy and doing good and to arrange enough money to pay for school costumes, funds, exercise books or regular clothing. One told me "*for a family to look good, it is the duty of a woman*".

The issue of shortage in food supply, as a result of too little income, was mentioned by several FHHs as well: *"In the past, I would even go 2 days without food in my house" (FHH, Chitekesa).* Another FHH said she sometimes had to ask her neighbours for some flour, because she would not have enough money available, because there was no piecework at that moment of time. As was previously illustrated, most FHH had to earn their money with farming and agricultural piecework, which provides them with a small and unstable income. One woman uncovered she sometimes earned 4000 to 5000 Malawian Kwacha (MKW), which is equivalent to $5.50 - $6.90 for piecework, which meant two or three weeks of work for her. Another woman even mentioned the same amount of money for a month of work. This woman who uncovered her earnings for two or three weeks' work, also expressed "*It is kind of difficult. For me being the woman, because it is hard work, physically. Also, when it is rainy season, I have to do this kind of work, but then I also have to do my own farm. So, it happens that I mostly do the casual work to get the money and then it happens that my farm land doesn't work out. That's why there is a lack of food in the year now"*. Also, the other FHHs, who gained their earnings in other areas mentioned it was too little or barely enough for them. For instance, one woman was an advisor of the TA and she would make 1000 MKW in a day, however she only worked once a week. Another woman would make about 2000 MKW a week by selling self-baked donuts, corn juice and chitambua. Then, there were also four women incorporated who did not have an income at all, but just had their own pieces of land to farm.

These expressions give an indication upon the difficult circumstances the FHHs were facing at both Chimembe and Chitekesa. When comparing these living standards with the World Bank's standard for extreme poverty; living from less than $1.90 a day, all of the involved FHHs could have been identified as extreme poor. However, it became evident during the transect walks and by spending some time in the area that, next to the FHHs, also other populations groups in the catchment areas of Chitekesa and Chimembe were experiencing these extreme levels of poverty, such as the elderly and the disabled.

Then, some respondents expressed feelings of being discriminated or being treated differently. This is a serious challenge, which have not been reported in the previous literature upon FHHs in Malawi. Some of the respondents explained there exists discrimination at Chitekesa facility, because they were FHHs. They had the feeling that other women were favoured and treated better, for instance by getting an injection, while they were experiences more sickness and had only received a pill. One of them explained that she was left out of community meetings in Chitekesa as well: "*At the group village head meeting, maybe they have something, they*

wouldn't call me. Then someone would just tell me that I would have said this this. And then I know I have been left out, because I am a single woman. … They just don't want me to do better. Like, people here want me to suffer". This discrimination has also been pointed out in Chimembe during the interview: *"In terms of, when I am talking or chatting with women who are married. People say that I would give them ideas on how to break their marriages up.".*

These expressions indicate there is a certain level of stigmatisation or discrimination of FHHs, however not all of them are facing it. Discrimination of FHHs in general is not a new finding, since this was already highlighted by, amongst others, Graham (1996) and GlenMaye (1998). However, perhaps, more striking of the explained discrimination is, that it is not related to gender discrimination as other scholars have revealed (e.g. Buvinic & Gupta, 1997; Djurfeldt et al., 2013). Another interesting element that became clear from the data is that almost all health care providers assured me that those women did not experience any form of discrimination at the health centre and are treated equally. Perhaps they expressed this, because they did not want to acknowledge or were not aware they were perhaps discriminating people themselves in their health work. This indicates that discrimination of FHHs has not been recognised by the wider health care environment and without recognition of a problem, it becomes difficult to accurately address a problem.

Only one of the HSAs in Chitekesa did mention he/she recognised a different treatment for FHH. This has been the result of an installed condition to increase the frequency of antenatal visits during pregnancy, whereby women were obliged to bring their husband to make him aware of the process: *"It is only at the antenatal clinic where we treat them differently. Pregnant women in their first trimester must come for antenatal services with their spouse. It is a must."* This made me question*:* What happens if the woman has no husband? *"They have to go to the village headman and get a letter of endorsement ascertaining that they indeed have no husband. Those who come with their spouses are helped first and exempted from the queue.".*

Furthermore, the FHHs also expressed challenges in accessing health care services. For instance, when the female head herself got sick she faced a problem, because nobody could take or assist her to the hospital. One of the FHHs mentioned that she would ask her neighbour to accompany her if she could really not make it by herself. Another FHH mentioned she was diagnosed HIV+, which makes it even more difficult to provide for the household, since she has to visit the health care facility regularly. In addition, the FHHs also faced challenges regarding health care services when one of the children got sick. This challenge was especially uncovered in Chimembe were the FHH were living far away from the health facility: *"I have to*

carry the child [boy of 8 years old] on my back to the hospital. But when there is a husband, maybe he could ride a bicycle and take the child to the hospital.". The challenges faced by the FHHs in accessing health care services are in further detail explained in chapter 6.

5.2.3. Perspective of local and national health care providers

The perspectives of local and national HCPs have been deliberately involved to get a more comprehensive understanding of how FHHs are understood in the Malawian health care environment. This corresponds with a feminist geographical approach, whereby not solely a specific group is being studied in isolation, but also their social ties and gendered interactions with the rest of their environment (Dyck, 2003; Ntata & Biruk, 2009). Most of the HCPs who participated in the FDGs and interviews responded to be familiar with the term of FHH and with the presence of these households in their surroundings (7 out of 13). At some interviews, I needed to describe the concept briefly to enable the participant to recognise the phenomenon (5 out of 13). The different HCPs described the term FHHs differently, whereby some referred to de jure FHHs and some rather to de facto FHHs. For instance, a midwife at the Chimembe health facility defined female heads as "*Some get divorced, some are widowed. Others maybe their husbands are not yet here, they are far, they are abroad working*". Here, also one of the HSAs understood them as: "*Sometimes it could be that the husband died and now the family is being managed by the woman or it may be that the woman is living alone. This makes the woman head of the family*". And the nurse in Chitekesa described FHHs as households where men have left their wife and children to find work somewhere else and do not return back. It remains unclear from this interview whether the man remains a financial contributor to the household These conceptualisations seem to indicate de jure definitions of FHH. Then there were also some who reported an understanding more connected to de facto FHHs. One of the HSAs in Chitekesa referred to it as "*It means a woman who is making decisions for her household, like me.*", while this woman reported to be still married. Also, the traditional healer of Chimembe incorporated the previous mentioned element of decision-making in defining female headship: "*where a woman takes the responsibility of making decisions and looking after the children. Either because the man is away or the man is no longer there.*". Altogether, this gives the indication that there exists not one single understanding of the concept.

This versatility of understandings has been earlier identified, both by the village headmen as well as in the existing scope of academic literature. The existing scope of literature unveiled a female head could be defined in three manners through i) the demographic

composition of the household, ii) her economic contribution to the household, or iii) her own description of her role in the household in relation to power and decision-making (Handa, 1994, 1996; Budlender, 2003; Sanni, 2006). My data revealed that FHHs in the rural Southern Malawi identify themselves with two of the descriptions; FHHs by demographic composition and by a self-claimed definition, which was the case for two FHHs in Chitekesa. This indicates that the lived experiences of FHHs in Malawi do resonate with the existing understandings and definitions of female headship and therefore do therefore not require an alternative understanding.

However, the diversity in understandings does matter and, as previous academic studies have highlighted, it is of essence to comprehend FHHs as a heterogeneous group (Barros et al., 1997; Fuwa, 2000; Chant, 2004). This element of heterogeneity is also highly applicable for the findings of my data collection. First of all, it has become evident that there exists a huge variety among the female heads regarding age, reason of being a FHH, highest level of education, frequency of using health care services and number of years being a FHHs. Moreover, the in-depth interviews identified different feelings and challenges experienced by FHHs, so were some of them proud to be a female head, while others mainly perceived it as a burden. To achieve full inclusivity in policy-making the diversity and multifacetedness of female heads should be taken into account to be able to provide suitable assistance, however I am aware that this is an impressive challenge. This complexity of this will be further evaluated in section 5.3.

Then, the previous mentioned challenges faced by the female heads themselves, have also been recognised by the majority of health care providers (n=10). However, only half of HCPs shared the notion that accessibility to health care services is a challenge for FHHs. So, explained one of the HSAs in Chitekesa: *They [FHHs] face mobility problems particularly when the child gets sick at night. A woman alone cannot gather courage to go to the health facility at night with a sick child. There is need for a man to escort her for security reasons. If there is no escort, then she has to wait until day break.*". This issue of bringing sick children too late to the health centre was also brought up by one of the HSAs and one of the nurses in Chimembe. This nurse revealed that "*households that have both man and woman, the decision is faster when there is a man ... because they share the responsibilities.*". Then, one of the national health care providers mentioned: "*They could have more struggles ... because they have lower income and they have more difficulty to reach a facility and so on.*". This indicates that certain HCPs are aware of the struggles faced by FHHs, because either their level of extreme poverty, or their responsibility for the whole household and decision-making by the absence of a man.

In addition to these barriers towards health care access, the HCPs showed they were aware of many of the other problems FHHs were facing: such as lack of sufficient food supply, less resilience of children to malnutrition related illnesses, difficulties with earning a living, taking care of all their children, being unemployed, being HIV+ and facing the corresponding stigma. In addition, one of the nurses in Chimembe expressed serious concerns with the nurturing of children by solely female heads; "*the children will not get the required resources from the mother and even the woman herself will not live a happy life.*".

The previous sections, have given an insight into the understandings of FHHs by different people in the Malawian health care environment, as well as which type of challenges they are regularly facing to sustain in their livelihoods as well as health care accessibility. It has been revealed that both the FHHs themselves and the HCPs are aware of the difficult living circumstances female heads encounter. I tried to uncover if there were any societal structures, such as policies or groups, in place which assisted or supported the female heads in their livings. I also asked, when those structures were not in place, whether these were considered as valuable by the female heads.

5.2.4. Structures to support female heads

The support FHHs gained from their social network differed substantively. Some of them were in the position to ask support and rely on family members. One female head reported that her younger sister, who is a teacher, supports her by taking care of the education of the children and sometimes financially. Another FHH disclosed she is supported in her subsistence farming and her laundry by her own children (who are already grown-up) and receives as well a share of their subsidized fertilizer and seeds. Besides that, her uncle made the decision for her that her husband was not allowed to reconcile with her when he attempted this after the divorce, which she had to accept.

However, most other FHHs were neither supported by kin or community members; the most regular actors of support according to Varley (1996). One of the FHHs in Chitekesa disclosed; even when her ex-husband stayed quite closely around after the divorce, he did not contribute to the household. Then, another FHH reported she would sometimes seek support from her neighbours. Although, she felt this support had certain limitations: "*It is kind of difficult, because I can't like ask for help every day. So, I can't come this house today and then tomorrow to somewhere else.*". This last quote and the limited amount of FHHs receiving

support from someone indicates the heavy burden felt by certain FHHs to ask for support, because they feel it is their responsibility to take care for the whole household by themselves.

Inspired by the concept of one's individual context and agency to foster a certain change, I explored if certain FHHs were seeking support among each other, in order to strengthen their social capital, as they were all more or less in the same boat (Harvey, 2002). The responses of the FHHs at both FGDs and interviews in Chimembe and Chitekesa pointed out that none of them was finding support by other FHHs, however in Chimembe was positively mentioned by one of the FHHs: "*I think we can help each other with ideas on what to do on a daily basis. And how to help our families*". This line of reasoning was also reported by the FHHs in Chitekesa, they could for instance start a saving or direct banking group to help each other out with loans. One of them explained during the interview that there did not exist initiatives like this in Chitekesa, because the FHHs did not know where to start due to that they simple did not have the money to set up such a group. Another FHH highlighted the idea of a saving group as well, whereby she stated that the village Chief should take initiative to arrange it. Not all FHHs were keen on this kind of support group, one of the FHHs in Chitekesa disclosed that she did not want to be part of a group: "*It is a risky thing. Because, those groups, they maybe lend each other money, but what if your business doesn't do to good and then you can't pay the others back. … I am scared. I thinks I will end up squandering other people's money.*".

Furthermore, one of the FHHs in Chitekesa brought up the option of the establishment of a support group who would bake together and then sell the bakings afterwards. In this manner, they could encourage each other to provide for their households. She explained hereby that the group should be guided by an external person, such as a NGO, because otherwise the sustainability of the group might become at stake as she illustrated with this example: "*In the past, for example, she went to Salima and there they saw a group of women making, like, baking bread. And they were with the MP [Member of Parliament], so they talked and one told her at the time 'What if we would have something like this in our area?'. And then the MP would be like 'Okay, I will find, I will help you out'. And then she has seen someone who came to pick them. And then they started to, like they set up those bakeries around here, in Mitiketi and Bandilo. Like different sites. And then they started and it was working, because they were monitored by those people who were like the leaders of the whole project. But then, after, when those people left them to do the thing alone now, people like started quarrelling and then it was shut down. Like, when you tell someone 'go buy flour'. They would eat the money. When you tell someone 'go sell the bread', they would eat the money. So, that's how it went down. So that*

is how they feel. So, if someone wants to come and monitor the whole group thing, that would help. That was just an example of, like, if it would start here, it wouldn't go anywhere. But then, if there would come someone else. It would work.".

The previous section reveals there exists a certain wish among some of the FHHs to have a structure, in the form of saving- or baking-groups where they could seek support among each other. The responses also reveal that some do not know where to start or believe that an outsider –someone else than a FGG - has to initiate such a gathering. This seem to reveal that the amount of individual agency is significantly low among the women themselves. This lack of agency and communal social capital, makes it challenging to enhance access to other essential types of capital (e.g. economic, human, political) to tackle some of the other issues they are facing (Newman & Dale, 2005).

The absence of a sufficient level of agency among the FHHs may be a result of being extremely constricted by their individual and social contexts, such as constrained in time, material resources and fatigue. In confirmation of the line of thinking of Kabeer (1999), multiple FHHs mentioned they struggled to access sufficient material resources to sustain their livelihoods. The lack of sufficient individual agency or communal social capital to spark changes in living circumstances is not something endemic for Malawi, this has been identified by other scholars, also more specifically in the Southern African context. For instance, Green (2000) identified in neighbouring country Tanzania a similar situation. She states, in line with Bebbington (1994) and connected to Giddens' structure-agency dualism, that agency can only be enhanced in those context by the institutional structures for participation, such as economic and political rules and resources. The lived experiences of the FHHs in Chimembe and Chitekesa resonate to those circumstances, since the structural inequalities that exists in their cultural context – access to the labour market, ownership of decision-making – as well as due to geographical factors – insufficient proximate located health care centres - are extremely challenging to combat by the individual. It is of importance to be aware that agency may have a different position in fostering development in the Malawian context than it may have in a Western context. Both, Markus & Kitayama (2003) and Bandura (2002) confirm this notion that agency may be comprehended in various ways and is thereby highly dependent on its cultural and individual context. Altogether, these findings highlight once more the importance of understanding challenges in their own context, whereby researchers should create spaces for alternative manners of understanding.

In this section has been revealed that it remains challenging for Malawian FHH to foster change in their individual situations. Some of them lack certain societal structures which would enable them to enhance their social capital. This could indicate a certain demand for more top-down developed structures focusing on FHHs, perhaps also in terms of access to health care services. In the next section, I will elaborate whether this seem to be a valuable approach in the Malawian health care environment to develop more effective policies.

5.3. Effectiveness of targeting FHHs in health care policies

It has remained unclear from the three interviews with national HCPs, who are involved in policy making or lobbying initiatives, whether the concept of FHH has been used for policy making. However, it did reveal that it would be considered as valuable by some of these respondents. The representative from the governmental health care provision mentioned that the concept of FHH is incorporated into policy making, however not specifically in health care policies. Then, the CHAM representative explained not to be aware of explicit policies: "*I wouldn't say, I have seen projects that have been targeting like women headed households. But, I think, it has just been a general approach. Like, both woman or husbands, but not only targeting women headed households*". This respondent would consider it valuable to target FHH in health care policies, however it remained unclear for me how he/she developed this reasoning: "*they will be suffering. Unless, if in that program there is an element of targeting those women headed households. I wouldn't wonder if they become more vulnerable than husband headed households.*". The third national representative of Malawian Red Cross Society answered something similarly: "*The structure is not visible, is not supported ... Others are most aware that there is system in place to support women who are heading the household. But, in Malawi, this is innocent. ... [The government] needs to target most vulnerable and in the villages, there could be many vulnerable people. And these women are not qualified.... This is a problem*".

These perceptions reveal that there is made little progress of incorporating a vulnerable target group, as FHHs, into Malawian health care policy making, since the earlier reported findings of Schneider et al. (2013) in chapter 2.4. They assessed several Malawian health policies on their inclusion of vulnerable groups to ensure more equitable health care for all.

Taking into consideration the perceptions of the various Malawian HCPs involved in this study, the lack of progress on inclusion of FHHs in Malawian health care policies might be the consequence of the simple fact that FHHs are not considered as the most relevant, vulnerable

or beneficial target group. I identified this by asking 11 health care providers for an answer upon the question: *"Which people experience most difficulties to access health care services in your catchment area?"*. Their answers uncover that FHH are not explicitly regarded as the population group with most obstacles regarding access, but rather the elderly, disabled people, pregnant people, children or people being HIV+/with AIDS. This seem to indicate that it depends on other characteristics whether a female head would be considered as vulnerable group in relation to health care accessibility; characteristics as the level of poverty they experience, age, HIV+/AIDS patient. On the other hand, most of the HCPs did mention to be aware of the tough situation and challenges FHHs were facing, whereby some of these challenges can be recognised in the characteristics of the most vulnerable regarding health care accessibility in Malawi. Altogether, I think, it is for the reason of higher levels of vulnerability present among other population groups, that there have been no specific rules of priority designed regarding health care accessibility of FHHs.

This outcome is in line with more general doubts about the efficiency of targeting FHH in poverty alleviation strategies in the existing academic literature, such as Blackden & Bhanu (1999); Quisumbing et al. (2001); Chant (2003, 2004). Like Chant (2004) highlights, it might be more effective to change societal structures in place to enhance their access instead of specific targeted approached. The academic literature addressing more specifically the effectiveness of policies or programs targeting specifically FHHs in accessibility to health care services has been extremely difficult to discover. Only, the study of Schneider et al. (2013) assume that inclusion of vulnerable groups into policy making will result in integrated and efficient management regarding accessibility to health care services, whereby there is an explicit focus on diversity management, however they did not test this themselves.

However, through FGDs and interviews, I was able to capture the lived experiences of FHHs, as well as HCPs, to get a sense whether targeting FHHs would be effective for the Malawian health care policy environment. Hereby, the data collection and analysis of this study provides a valuable and unique insight, whereby it partly covers the existing gap in the academic literature upon the effectiveness of targeting FHHs in a wider field of areas than in poverty reduction. Altogether, in line with Chant (2004)'s statement, it seems relevant to conclude that is necessary to move away from overemphasising the weak elements of FHHs and instead be attentive that women in MHHs are experiencing similar challenges. In the case of Malawi, it would be more efficient to unravel challenges regarding access to health care services in light

of a wider society, for instance by focusing on accessibility for all women, whereby the multidimensional nature obstacles in accessibility is recognised.

Altogether, this chapter has concentrated on unravelling the notion of FHHs in Malawi through the lived experience of both FHHs, as well as through the perspectives of others. It has presented a diversity of lived experiences among FHHs in rural areas of Southern Malawi, as it both uncovers the challenges some of the FHHs are facing, as well it sheds light on the pride some experience by being fully responsible for their entire family. The quotations in this chapter have been aimed to reveal strength and capability among those women to succeed in their own values, such as having employment or being a good mom. At the same time, these personal values show immediately the importance of approaching Malawian FHHs in relation to their cultural context, since their values, but also position is different from those of Western women. This underlines the essence of capturing the diversity of lived experiences of FHHs related to their own contextual factors, as was highlighted in the theoretical framework for Malawian gendered studies by Ntata & Biruk (2009). I hope with this analysis, I may provide a valuable contribution to the existing gap in the academic literature upon the understanding of the concept of female headship in the Malawian context. As well as, more generally, the limited academic knowledge of the lived experiences of FHHs regarding health care accessibility.

Chapter 6: Geographical factors and individual context explaining health care accessibility

In the previous chapter was already hinted to some challenges faced by FHHs regarding their health care accessibility. This chapter will in more detail explore the obstacles faced through the lived experiences of FHHs, as well as by HCPs. Hereby, it will divide attention to the role of geographical and individual factors in explaining these accessibility issues, since this will give an insight in how earlier identified divergence between measured and perceived access (chapter 4.3) might be explained. A better understanding of obstacles in accessing health care services for FHHs could of value for more inclusive Malawian policy-making in order to ensure eventually accessible health care for all.

The chapter will start with an introduction to the changes that have been experienced in the Malawian health care environment, since the data collection of the EquitAble project in 2012. Then the currently experienced obstacles regarding health care access are elaborately described, followed by a section about the consequences these barriers to access bring along. Next, the undertaken initiatives are presented, as well as satisfactory elements of the health care system. This chapter is finalised with a discussion section where the influence of geographical factors and individual context are in more detail discussed.

6.1. Changes in health care situation

Table 7. An overview of the perceived changes at Chimembe and Chitekesa (personal creation)

	Chimembe FHH	Chitekesa FHH	Chimembe HCP	Chitekesa HCP	National health care providers
1.	Expansion of facilities and equipment	Expansion of facilities and equipment	Expansion of facilities and equipment	Expansion of facilities and equipment	
2.	New staff and structures	New staff and structures	New staff and structures	New staff and structures	
3.	Faster or better assistance	Faster or better assistance	Faster or better assistance	Faster or better assistance	
4.	No change				No change
5.		Better hygiene			
6.			Collaboration with NGOs	Collaboration with NGOs	Collaboration with NGOs
7.			Increased awareness of importance MM	Increased awareness of importance MM	Increased awareness of importance MM
8.				New rules and shifts in health trends	New rules and shifts in health trends
9.					Loss of quality

First of all, the identified changes by FHHs and HCPs in the provision of and access to health care services in both Chitekesa and Chimembe are explained. Hereby the last study upon their health care access – the EquitAble survey of 2012 - is taken as a referral point; so, which changes could the respondents identify since 2012. This has been included to understand that the health care environment in Malawi is not something static, but develops itself as the result of many internal (e.g. policies) and external factors (e.g. NGOs). By most respondents mainly changes for the better were mentioned. An overview of these changes has been provided in table 7.

6.1.1. Change: more equipment and expanded facilities

In Chitekesa the FHHs and HCPs mentioned the whole health facility has been renovated during the past three years. This has resulted in a brand-new maternity wing, a new pharmacy, new blocks for male and female wards, a new water tap, maintenance work of the roof of the facility and some solar panels for supply of electricity for the periods with power cuts. One of the FHHs mentioned "*I think it will even get better and better, the way the facility is. ... more development is coming at the facility. ... There will be a mortuary. And then there will be wards for men and females*". The establishment of the under-five clinic in Mtiza in the region of Chimembe also changed the accessibility of some FHHs significantly, since they could receive health care for their young children twice a week a lot closer by. Also, one of the MAs at Chimembe mentioned that the under 5 village clinics and the shared ambulance are improving accessibility of health care services. One of the HSAs reported "*In the hard to reach areas where we have established under five clinics, people had problems accessing health care services for their children due to long distances to the health centre and geographical barriers.*" About six years ago all those children still had to travel to the health facility, while now 90% of the required services is giving closer by home, which has greatly decongested Chimembe facility.

6.1.2. Change: Increase in awareness of relevance of modern health care services

The national HCPs expressed an increased use of modern health care services over traditional health services in the past years. "*I think according to NDHS [National Demographic Health Survey] 2015 results, I think it was about 98%. ... 10 years ago, it was around 60% to 40%. Health facilities were delivering about 60%, traditional birth attendants around 40, or home deliveries. But now, it has improved a lot.*". This was explained to be a result of penalties that were implemented when making use of TBAs to enhance the number of safe deliveries. This was confirmed at both facilities. One of the nurses of Chimembe reported that less women were

using TBAs, she thought as a consequence of the punishments which would follow. In Chitekesa was mentioned by several of the HCPs they thought the decreasing use of TBAs for delivery was a direct result of the improvements of Chitekesa facility. One of the HSAs here reported *"the abolition of TBAs has considerably reduced child mortality rates. More women go to the health facility to deliver resulting in improved maternal and child healthcare."*. Furthermore, the HSAs stated to have seen an increase in the number of registered patients for family-planning services and vaccination programmes, which are more and more carried out in further located communities in outreach centres.

One of the nurses in Chimembe recognised a change in the popularity of using modern medicine *"it has changed quiet a lot through the enrolment of the HSAs. They are helping a lot in spreading the news, educating them yeah, about the use of coming to the hospital, to be attended by doctors rather than going to traditional healers."*. Also, one of the national HCPs revealed they were putting more effort in preventive health education and awareness creation of the benefits of using modern health care. Moreover, the village headman, however not one of the health care providers, confirmed this change: *"things have changed, because of education. Less people use traditional healers these days compared to some decades ago. People these days prefer the health centre, while in the past people were uneducated and used traditional healers much more."*.

Besides this, some of the FHHs in Chitekesa mentioned the living circumstances of people has improved over the years, thanks to the sensitisation work of HSAs and volunteering women, which enable better health conditions for their community members. For instance, more people improved their hygiene and sanitation levels with 'toilets' in their houses and by the creation of a cleaner living environment. This was regarded as *"a big change, because a lot of people would get diarrhoea. But then now, there is a big change, because in this season Cholera would have already started in this area. But then now there is no Cholera outbreak."*. Furthermore, awareness upon HIV-testing and counselling services has been rising in Chitekesa and people feel more comfortable to get tested, thanks to trainings provided by NGOs.

6.1.3. Change: improved supply of medicine

The Traditional healer in Chimembe also mentioned he could notice a change that people are living longer in his community, *"because now there are a lot more drugs. Especially at the hospital, so there are fewer deaths than there used to have. Because the hospitals are acting very quickly, they have newer drugs and they help people fast."*. Both the VHM, HSAs and MA of Chimembe confirmed that the drug supply – both in terms of the amount of medicine and

timely stocking of medicine - has improved, partly thanks to the help of NGOs. This was also identified by one of the nurses in Chimembe. This nurse revealed the drug supply had improved as a result of NGOs assisting the government in buying drugs, e.g. Global Fund. One of the FHHs here also mentioned the drug supply has been better taken care of these days, since there has been a lot less drug theft and vending in the past "*like the doctors they would sell to vendors, and then the people would not get enough medicine. So, now there is a committee that handles that to make sure that there is safety in terms of the medicines. That they are not being sold. So, now it is much better.*

6.1.4. Change: improved assistance
In both Chimembe and Chitekesa a positive change in the availability of service and quality of assistance received was expressed by the participants. For instance, in Chitekesa one of the nurses mentioned that some NGOs (e.g. Safe Mother Committee, Global Action for Children. Dream) offered their assistance towards the staff in the facility by super visioning and trainings, for instance about the importance of male involvement to support their wife in labour. The FHHs here reported that more HSAs have been employed which improves the speed of receiving health care.

Furthermore, in Chimembe, the MA has become more approachable and even sees emergency patients in the middle of the night, according to some of the FHHs. The HSAs here mentioned an increase in the number of staff employed, which resulted in faster and more adequate care giving. A couple months ago - at the moment of the interview - a second MA and another midwife started at the facility, whereby one could be employed thanks to the assistance of a NGO by paying her salary (Management Services for Health). Furthermore, one of the nurses added that the number of cholera outbreaks and malnutrition issues has decreased in Chimembe, thanks to the outreach of HSAs. The HSAs mentioned that they could better carry out their outreach work, because they received bicycles to overcome the long distances, which partly addressed their mobility problems. Moreover, the HSAs started to use Community Case Management phones nowadays instead of manual registering, whereby the information is directly shared with the District Health Management Information System. "[*The phones] help us in monitoring the health of children under the age of 5. We also help women who seek family-planning services and neonatal services. Women are examined before and after delivery. We use phones for all these services. The phone tells us to register the mother, the child, the type of sickness and treatment needed. … It also reminds us to make follow-ups on particular children requiring our attention. … These phones have greatly reduced our workload, because*

all the information we need to know about the child is stored in the phone. This makes administering of treatment to the child easier. The phone leads us and we have to follow what it tells us. When you miss one step of the required procedures the phone will bring back to what was missed. The phone loads data and when all procedures have been completed in the treatment of the child it will show that everything has been completed.". Another HSA added that the phones were also used to contact the patient, or a family/community member, whenever test results could be collected, for instance of TB-testing.

Additionally, at the national level of health care provision also some changes were revealed. For instance, an increase in the number of medical assistants/doctors as well as an increase in the number of being employed at the districts. They reported that no change has been noticeable regarding geographical access specifically. Furthermore, a less positive change has been there for the CHAM facilities, which have become dependent on governmental subsidies: *"CHAM facilities were able to run by themselves 20 years ago. And they were able to have names; they had good doctors. They were able to generate funds, maybe either from donors or from user fees. ... But, now, that is not possible. ... Almost all CHAM facilities or maybe about 90% of CHAM facilities are supported by government in terms of salaries.".* While CHAM revealed to be depending on governmental funds, the government reported, on the contrary, to be also dependent on – mostly international – partners, for instance those who are aligned in the Health Donor Group. This dependency of others indicates a complexity of addressing issues efficiently and effectively, since multiple actors with various agendas have to be consulted prior to implementing potential solutions. Besides the difficulty to collect enough funding for the CHAM facilities, the respondent also mentioned the mind-set of the users has changed: *"people would want to get free services. ... If you would visit some of our CHAM facilities you find people who are unable to pay for health services. But, as a facility we cannot say 'we are not giving you treatment'."*

This section has provided an insight that the health care landscape in Southern-Malawi is to a certain extent elastic, whereby developments (for the better) are happening. Some as a consequence of external partners, such as NGOs, as well as some internal forces, such as the MoH who prohibited the use of TBAs. Furthermore, some undertaken efforts at the supply side to improve the health care situation to a certain extent have been revealed, such as the expansion of the structure in Chitekesa and a better supply of drugs over the years. As well as, some demand side initiatives by volunteering women to raise awareness of good hygiene and

sanitarian circumstances. Despite these good efforts, the next section will address in detail that not all issues have been solved by these changes.

6.2. Challenges in accessing health care services

Table 8. Overview of the challenges regarding health care accessibility in Chimembe and Chitekesa (personal creation)

	Chimembe FHH	Chitekesa FHH	Chimembe HCP	Chitekesa HCP	National health care providers
1.	Insufficient opening hours	Insufficient opening hours	Insufficient opening hours		
2.	Long waiting times	Long waiting times			Long waiting times
3.	Money	Money	Money	Money	Money
4.	Staff - Rotation of staff - Lack of skilled staff	Staff - Rotation of staff - Lack of skilled staff - Treatment towards patients - Lack of commitment	Staff: - Lack of skilled staff	Staff: - Lack of skilled staff - Treatment towards patients - Lack of commitment	Staff: - Lack of skilled staff - Lack of commitment
5.	Long distance		Long distance		Long distance
6.	Transport difficulties		Transport difficulties		
7.	Road conditions		Road conditions	Road conditions	Road conditions
8.		Lack of equipment and structures	Lack of equipment and structures	Lack of equipment and structures	Lack of equipment and structures
9.		Referral Service	Referral service	Referral service	Referral service
10.		No good assistance			
11.		No adequate medicine	No adequate medicine	No adequate medicine	No adequate medicine
12.		Corruption	Corruption	Corruption	Corruption
13.			Too much work/Tiresome	Too much work/Tiresome	
14.				Behaviour of patients/community	Behaviour of patients/community
15.				Lack of governance/ collaboration	Lack of governance/ collaboration

The respondents mentioned some similar as well as differing challenges regarding their health care accessibility. An overview of the challenges experienced by either FHHs or HCPs at Chitekesa and/or Chimembe is presented in table 8. This table gives a clear insight that the obstacles of 'money for health care services' and 'lack of enough skilled personnel' have been mentioned by all participant groups, which indicates the seriousness of these obstacles. Furthermore, none of the challenges was only mentioned by one participant group, at least two

participant groups recognized each obstacle, which enhances the reliability of the mentioned issues.

This section will give an insight of the issues experienced by both FHHs and HCPs, starting off with those challenges that were mentioned by most participants and perhaps therefore may be notified as most critical.

6.2.1. Costs of health care services and lack of financial means

As has been illustrated in the previous chapter, the participating FHHs revealed the found it challenging to 'find' enough money to provide for their households. In addition, several of them mentioned that the lack of financial means also contributes to a worse accessibility for health care services. They explained that there are costs attached to making use of health care services up to a certain extent, even though they would go to a public health facility where the services are offered for free, since they do have to pay for their transport (in Chimembe). During the FGD of FHHs in Chimembe was mentioned: "*it is difficult to access money as well as health care ... if you don't have money, then health is a problem ... if you have money you would not have problems in accessing health care ... you have money to get to the hospital and [buy] medicine*". Or in Chitekesa was reported that financial means were needed to access health services when the drugs were not available at Chitekesa or waiting times were too long, then people would have to go to Matiya, which is a health paid facility, or to a private pharmacy. One FHH explained that the staff at Matiya allowed her to use the facility on credit by giving something as collateral, which she would take back whenever she had the money again to pay the bill. Moreover, at both health facility, the nurses mentioned that for some pregnant women it was a problem to come in time to the health facility, because they also needed to provide for the remaining part of their household at home. Moneywise it would be too expensive to leave the household well ahead of time, because they only had sufficient means when the food was shared with the entire households. The traditional healer in Chimembe recognised that his patients were often malnourished and that having insufficient amount of food was a regular issue in his community due to financial constraints.

Another issue mentioned multiple times, related to lack of enough money, was the insufficient availability of fuel for ambulances. It happened regularly that ambulances were delayed, because there was no fuel available. One of the nurses of Chitekesa expressed she then sometimes advised the patient to use his or her own transport. However, most patients were not able to afford this and then had to stay at Chitekesa facility for days until the ambulance

eventually came. The same issue was also recognized by one of the national health care providers "*in most health centres we [CHAM] have ambulances or vehicles. Vehicles to refer the patients. However, because our services are payable, then it means people have to pay for the ambulance. So, some people say we don't have money to contribute for fuel. So, in that case it is like, we are also defeated.*".

6.2.2. Lack of sufficient qualified health personnel and good assistance

All groups of participants mentioned a challenge with the health care personnel. This challenge was unravelled in different sub-challenges. For instance, at both health facility was reported a sub-challenge regarding lack of sufficient skilled health workers. In Chimembe was expressed by the FHHs a need for a HSA who could take care of the under-five clinic and their village Mtiza. One of them reported that this HSA started last month and that hopefully times would change now, however the village headman stated it could still be an issue that the HSA was living so far away from the community. The HSAs themselves also revealed this need for more HSAs: "*we have a shortage of HSAs in this catchment area. It is too big. We fail to attend to clients here when we conduct outreach clinics in our respective catchment areas.*" One of the HSAs uncovered another necessity: "*we also have nobody who was trained in the provision of youth friendly health services. As such we have problems delivering health care to the youths in this community. This facility is not doing fine on that front. We need training in that area.*". Furthermore, one of the HSAs and one of the nurses highlighted the need for another hospital attendant. One of the MAs of Chimembe mentioned the shortage of staff resulted in the fact that the hospital attendant also had to carry out tasks of HCPs: "*we have one hospital attendant; the one who cleans inside this hospital. We have only one, but he gives drugs there after I have prescribed on Wednesday. he is the ART clerk*". One of the nurses expressed she would appreciate the help of another nurse at the facility, because sometimes she works alone at the facility and has to do all the deliveries by herself. She also pointed out that the current volunteers, who assist in weighing of children and collecting suspected tuberculosis specimen to lower the working pressure of HSAs, could be used more optimal. For instance, by training them in other duties such as treating of minor ailments as well. She assumed this could potentially cover the lack of sufficient number of HSAs.

In Chitekesa, one of the FHHs highlighted it was too little that there was just one MA at the facility: "*he gets tired, because he is prescribing to people all day*". The MA himself revealed the lack of sufficient staff as well: "*there are approximately 44,400 people in this catchment area but talk about people from Nkhwayi and Zomba. We serve a lot of people and*

the major problem I have is that I am overworked.". One of the nurses also felt there was a need for more staff; "*for nurses we are 4. But according to the workload that we have, we still need more nurses ... we have only one medical assistant. The very same person has to work on the day, the very same person on whenever, he has some cases here in the night. He is the one who also attend here those cases. Yeah, so, it is a challenge.*". The other nurse also highlighted the existing lack of sufficient health workers by reporting that the newly constructed wings at the facility were not in use yet, because there is simply no staff to work there – as consequence of that there are also no houses for them to stay in -.

The issue of shortage of staff at rural facilities was also recognized by one of the participants from the national level of health care provision: "*Mostly health workers they want to stay in the cities, were they have availability of electricity, houses, water close by, other social facilities close. But, if you go out there, if you go to the rural health centres, you, it is hard to find a medical assistant in the health centre. Yes, those health centres are supposed to have one or two medical assistants of the day, to do the prescriptions. There should also be a clinical officer at health centre. But, hardly find them there.*" On the contrary, this participant did believe there is enough technical capacity in Malawi: "*we still have many trained people in the country. We have doctors, we have trained pharmacists, we have trained clinical officers. So, to me, the skills are there*". One of the other participants at the national level revealed staffing levels are quite low at the moment of the interview with about 50% vacancy rate. This was, according to the participant, mainly due to budget limitations to recruit everyone: "*For example, some students who have just qualified from the training schools, maybe for a year or now maybe two years, they have not been employed, because of the budget constraints. So, the government is not able to take on board everyone who is available.*". Furthermore, the respondent mentioned some issues with recruiting HCPs as a result the recently implemented decentralization process: "*because, it was the headquarters that start recruiting health workers and deploy them to districts. Now, with this new arrangement, we don't know whether the districts will recruit or the health workers will be recruited here and send to the districts.*"

Then, mainly at Chitekesa, some other issues related to the actual health care staff working there were uncovered. Some respondents expressed dissatisfaction with the behaviour of health workers at Chitekesa, in terms of lack of commitment, insulting or shouting at patients and discrimination of patients. One FHH illustrated with the story of a pregnant woman that patients were not always prioritized or regarded as important: "*she was at the hospital to give birth alone, like, there was not attendant. So, they felt that was bad and that she didn't give birth in*

the right way, she needed help and she wasn't helped.". Another FHH expressed their feelings of not being well assisted: *"[when] there are some pains you feel like 'I should go and get tested'. But, then when you go there, they don't test you even. They just give you meds".* Another FHH stated something similar: *"at Chitekesa, the prescription will be the same no matter how different the diseases patients are suffering from may be. ... Before you finish explaining your problem, he [the MA] has already written the prescription. Sometimes the medical provider may tell to go to the market and buy own drugs because the facility does not have such drugs in stock.".* Another one of them expressed *"there are some women who are favoured and are treated well, but somebody like me never gets the desired attention no matter how sick I can be.".* Moreover, another FHH reported that the provided medicines were often a mismatch with the conditions she was experiencing.

Some of the FHHs revealed the MA at Chitekesa was shouting or insulting his patients from times to times, for instance whenever you fail to recover. Or *"even with the chiefs, going to the medical assistant, they still get insulted by him.".* Three of the FHHs in Chitekesa expressed there exists some discrimination for the elderly, since them is told that the medicines are for the younger generations and further treatment is refused: *"I was told that I have become a plastic paper now because of my old age and therefore I should not deplete drugs at the facility. When I walk with my walking stick on the cement floor I am told to move away because my walking stick damages the floor. I just go back home untreated.".* Next to this, some more FHHs confirmed more often patients were refused in Chitekesa, one stated: *"Patients who groan and moan because they are in pain within the facility premises are refused treatment. The medical care provider may even throw the health passport book away or walk out on the patient. It may take the intervention of some people to convince him to resume work.".* Moreover, one FHH reported that the current MA *"refuses patients to come close to him for fear of being contaminated with the disease.".* Another FHH also expressed this feeling *"when he is like attending to a patient, like this [we were seated opposite of each other with about half a meter space in between], they can't sit this close. The patient has to sit somewhere far".* Moreover, one of the HSAs highlighted the same issue of the current MAs behaviour: *"The problem comes when people come at night with emergency cases. They expect to be assisted there and then. The MA having worked the whole day gets tired. When he is sleeping and people knock on his door at night for his assistance, he does not respond quickly. This annoys the healthcare seekers and squabbles between the two parties ensue. They think they would find him in his office even at night. The Health Advisory Committee helps to resolve such misunderstandings in conjunction with the TA.".*

Another HSA believed there is a different problem at stake: "*there is a problem between the MA and the community on one hand and the MA and fellow members of staff on the other hand. I am not sure if can be attributed to fatigue in his part. He is not well cultured. I can go there myself when sick or with my sick child, he would refuse to assist me as his fellow member of staff.*". Two FHHs also recognized the issue of the challenging relation between the MA and his staff "*then some days it is just, like, he woke up on the wrong side of the bed. That he is just, yeah, at everyone's throat. Even the workers there are also scared, like, his fellow colleagues are also scared of him. They make mistakes, because of the way he is treating people*" and "*even when a patient is critical and the HSAs are calling the MA; 'we have this this patient'. He talked bad at the HSAs as well and then maybe he tells them 'you attend to this patient, I can't do it.'. Then the HSAs maybe even tell him 'the way the patient is, we can't attend to him, you should attend to the patient'. But then he doesn't. Maybe until the patient just goes home without being attended.*".

The perceptions of the MA himself reveal the benefits of using triangulation in research respondents, since now the other side of the story is also incorporated to verify or challenge the earlier expressed experiences. The MA himself reported he had too much to take care of "*It is not that I have to work 24 hours but people here do not understand. They expect me to work 24 hours. I live in this community: some people are civilized while others are not. ... When you go home somebody comes and you start shouting at him. When you want to rest for lunch you find that people follow you at your house. The level of understanding of people in this community differs. I know that I am not 100% right. People who come to me at the right time I have no problems we will discuss and will provide treatment. What people should know is that I am a parent and I need to rest.... I am the only one who is responsible for clinical services. There is shortage of staff in this facility. I need to rest as well. .... We serve a lot of people and the major problem I have is that I am overworked.*". And one of the HSAs admitted he also had to send away patients sometime, because he simply needed to rest: "*Sometimes women from around the facility would come to my house at 5:00am looking for family planning services when I have not even woken up. My wife gets suspicious. When I advise them to wait for the facility to open, they get angry and claim we have refused them access.*". Moreover, one of the nurses in Chitekesa shared a similar experience with the high amount of work: "*Sometimes, we when, we work extensively without having some, sometimes, you know. Sometimes you need to take on off duty, you need to be on off duty. And do whatever you can do, rest. And sometimes you fail to cover situations like that, because we are few of them. Sometimes when our colleague, our*

colleague has gone somewhere to attend meetings and so. So, we still, we work here no, uhh, extensively. We don't have much time, no, to do, your own things. For example, you go to the lake and have some fun. Yeah, so don't things we don't have. ... If I thought, if I have maybe time to rest, maybe it is just a day. A day or two.". The nurse, who was already doing her job since 1982, highlighted she was especially facing such a situation when one of her colleagues was away for something: *"It happens when some, another staff member, has gone somewhere. If you are left alone, then you are in a panic. ... Yeah, it is hard (laughs). Yes, it is very busy. For example, here at the maternity, you are called to deliver there in the labour ward. But then you come here for antenatal care, for family-planning and for other services. Because we do also generally implanting, so you become very busy when you are alone. ... Yeah, you become tired".* In addition, one of the HSAs stated: *"We do not have the technical capacity to handle some things. When new things are introduced, we do not undergo the orientation to master the technology. Sometimes it is just one person trained to train others. Such kinds of trainings are not effective all the time and we therefore lack the expertise to operate some gadgets as required. Now patient registration has been computerised and not everyone has such capacity to handle it. As such they rely on others to help them and this is inconveniencing."* At Chimembe, this feeling of being understaffed was also reported by one of the nurses and MAs, which caused a high work load for them. The difference with Chimembe facility was that here the high working pressure was not projected at the patients, since the patients did not mention this as an issue.

About three FHHs in Chitekesa mentioned that there existed similar issues at stake with the previous MA, although he was less inappropriate. One of them reported: *"the doctors when they come, they show like good behaviour .... But then after some time, they change and become bad. It doesn't just happen with this one. So, another comes and the same thing happens. ... When they are used to this area, they start treating people badly.".* This indicates the issue with unpleasant treatment of staff is not necessarily an issue on itself, but happens more regularly. This was confirmed by the FHHs of Mtiza/Chimembe who expressed they valued the care at Chimembe, however they recognized the experiences of unpleasant treatment in Chileka: *"at Chimembe you can speak freely to the doctors than at Chileka where they just give you your book even before you finish explaining. Even when they give you the medicine at Chileka they do not explain the instructions properly compared to Chimembe.".* One of the national health care providers recognized this issue of lack of commitment among HCP at a wider scale *"To me, when you see, you wonder why the people really accepted working in the health facility or*

the civil service. You will see, the commitment is not much there for many of the health workers.".

6.2.3. Demanding behaviour of patients

As some patients revealed the behaviour of HCPs was an issue in Chitekesa, some health care workers in Chitekesa stated similarly that certain behaviour of their patients or the community caused issues towards good health care accessibility. For instance, one of the nurses mentioned that some people who lived nearby Chitekesa sometimes neglected their health conditions or illnesses and accessed Chitekesa only in a late stadium with intense and complex conditions. This was confirmed by some of the HSAs: "*There is a Chichewa adage which goes like 'apakwawo anagona ndi njala' which can be loosely translated as 'those close to opportunities are the ones who miss them'. They procrastinate in accessing healthcare, because they take it for granted that the health facility is just in the vicinity. But those staying far communities come at the earliest time to access healthcare and by the time they arrive the facility is not yet congested.".* Furthermore, another HSA highlighted another issue with the behaviour of patients: "*the community members view each and every one working at the health facility as a "doctor"; capable of administering treatment to them. They don't know that there are different cadres at facility. When somebody not qualified to treat them just looks around, they start calling names and threatening to chase them from their community. They accuse the medical personnel of stealing drugs meant for the sick people in the community.".*

The MA described he perceived similar feelings of incomprehension by the patients towards his position; "*When patients come to the clinic and they do not find any drugs they accuse me of stealing the drugs. What they forget is that sometimes I use my own transport to go to the District Health Office in order to order drugs. ... As far as I am concerned it seems that they think that I steal medicines, which is not correct…. In this community, there are some drug dealers. There are some people who visited me at my house and wanted to buy ARVs and other medicines from me [meaning health facility]. I told them that the medicines were for the people who were sick and I could not sell them the medicines. This group of people then started campaigning that I should be transferred. I told the DHO that I came to this health centre alive and I would want to leave while alive. Our office knows that there are such people who want to buy medicines and sell them to the people in the community…. People will leave the facility and tell others that we are not providing good services mainly because of non-availability of medicines.".* The issue of drug pilferage in Chitekesa was also mentioned by some FHHs who indicated that some of the doctors were selling medicine from the facility to vendors, which

caused a lack of sufficient drugs for all the attending patients. For that reason, some of the women went to Matiya instead. This issue of drug pilferage seems to be a reoccurring issue, since the VHM of Mtiza expressed he encountered this issue at Chimembe health facility in 2013. This MA has been replaced who is not involved in this business. One of the national health care providers also highlighted the issue of corruption and drug theft within the health care system; "*For example, we need to put it in Blantyre, just because this politician, this big politician, comes from this area. ... So, to me, our problems, are not really about money. But, how we are thinking around putting resources to where they are most needed*". Not only drug theft was an issue related to corruption among health care workers, some FHH in Chitekesa reported that some patients would also bribe medical personnel at the facility with food in order to receive better health service. Another FHH insinuated that the MA was bribing the Health Advisory Committee to get what he wants. This latest statement was not mentioned or confirmed by anyone else.

Furthermore, the HSAs expressed that they experienced sometimes issues which reaching out to people, because of their cultural values. One HSA reported that sometimes, during outreach, "*the village headmen and other elderly people ask for their treatment as well. When we tell them that we only cater for the under 5 children and provide family planning services to women they turn against us. They provide a hostile environment for our smooth operations in the village. They sometimes deliberately refuse to help mobilise their subjects for the vaccination campaigns.*" Another HSA confirmed the challenging behaviour of chiefs: "*the chiefs in the villages demand handouts and if they have not received any gratification from the health provider, they do not collaborate in community mobilization. NGOs have spoiled the chiefs with monetary gifts. Without cash or material incentives, planned community campaigns do not work properly*". Moreover, also chieftaincy disputes jeopardise the work of HSAs: "*When there are power struggles between the royal families for the chieftaincy, things go haywire. If the HSA has approached one chief, the other clan and their supporters do not come to attend the meetings in protest. Attending the community meeting within the territory of their rival is like endorsing him as a legitimate chief.*".

Lastly, one of the national health care providers also experienced a certain mind-set among the patients, which the participant regarded as an issue towards health care accessibility: "*But, now the mind-set has changed a bit, whereby people would want to get free services. Just free, everything free…. At public health facilities, maybe there are no drugs, inadequate drugs, but you will find a queue of patients. A big queue. … That mind-set of 'I want free services'. Because, they are the same patients who pass the CHAM facility. And when they are told 'we*

don't have these drugs, you go and buy from a private pharmacy'. They are the same patients or guardians who buy from health facility, I mean a CHAM facility. Meaning they have capacity. But, for them, it is that attitude.". Another national health care provider revealed some collaboration struggles between the government and CHAM facilities regarding the Service Level Agreements (SLAs), such as mistrust about correct bills of costs, as well as lack of commitment from the government to pay the bills of CHAM which affects the opportunity to further offer free services to the patients.

6.2.4. Lack of equipment, tools and health care structures

At both facilities was mentioned by both FHHs and HCPs that the accessibility of health care was affected by lack of enough equipment, tools and health care structures. At both facilities was expressed that access to clean water was an issue in the communities, which as a result caused more disease in the area by diarrhoea, cholera and dysentery. In Chitekesa, the health care personnel mentioned further issues at the health facility as lack of bathrooms, lack of enough beds in the maternity area, lack of availability of clean water - because the borehole was broken-. As a consequence of the lack of available clean water "t*he guardian just takes the things and washes them by the river",* which could, first of all, lead to infections and secondly, causes shame among the women, because, as one FHH mentioned, these used utensils should not be shown like that in public. Furthermore, one of the nurses highlighted the serious need for more beds: "*Delivery beds, we are, we have got only one. We do improvise, some day we deliver them on the floor. ... also in the postnatal all the beds are broken, but we are still using them, because we don't have beds to use for the postnatal matters".*

In Chimembe other equipment needs were mentioned by the MA as stethoscopes, scales, thermometers, electricity supply – also during power cuts -, bed sheets and a functioning motorcycle. One of the nurses highlighted the need for more staff houses to enhance the quality of speed of service, since otherwise it was impossible to employ more staff. The nurses and HSAs also expressed the necessity for more beds at the facility, so women in labour do not need to deliver on the ground anymore, which happens about twice a month. Furthermore, the HSAs signified the need for structures for their outreach clinics; "*some areas have no structures built for such purposes and we are forced deliver the services under the trees. This development compromises the quality of the services offered.".* Additionally, the MA revealed that not all outreach clinics were running, because Save the Children did not provide all places and HSAs with drug boxes. Also, the lack of a good functioning telephone network was expressed by the HSAs, which caused a challenge for quick and just communication; "*Most of the areas in the*

catchment area have no phone coverage hence difficult to link up with clients. It is difficult to report emergency cases in such circumstances.". This was also mentioned by one of the MAs, who highlighted the possibility to miss important information, because of the limited network connection. In addition, another HSA and also one of the nurses revealed the issue of lack of privacy for ART patients as a result that there was no separate structure available in Chimembe to deliver ART services, since this was done in the antenatal room.

One of the national health care providers recognized the need for more staff houses and equipment at facilities existed at national scale. He expressed "*I have met a certain doctor once who told me 'I am a specialist in this area'. But we have no equipment. Without equipment, I just try to prescribe a certain drug that would cure the patient. We are equipped at the pharmacy department, that is how the drug is stored.".* This indicates that due to the lack of sufficient and adequate equipment health professionals are not able to achieve their maximum potential in treating patients. Furthermore, the respondent recognised that this issue caused dissatisfaction among health personnel. "*So, as a result, this health workers got the view that they do not get enough. They feel they are not getting the welfare they need. And they also say that they don't have the equipment they need".* As a consequence, he saw that staff were leaving the public facilities for private facilities were the working conditions were better.

6.2.5. Insufficient supply of adequate medicine

Besides the lack of enough equipment and tools, the issue of receiving correct medicine and treatment was also mentioned by multiple respondents, especially in Chitekesa. In most cases, both by the FHHs as the health providers stated this was a consequence of insufficient supply of medicine at the health facility. One of the FHHs during the FGD in Chitekesa reported "*Sometimes the medical provider may tell to go to the market and buy own drugs because the facility does not have such drugs in stock.".* One of the HSAs confirmed this: "*Sometimes there are no drugs in stock and instead of waiting for new stock they opt to go to another health facility. For example, for TB clients, if we don't have other supplies for them, we ask them to go to other health facilities for help.".* Also, the MA of Chitekesa reported the issue "*Sometimes we place emergency orders for medicines but these do not come on time. We do experience stock outs of drugs in this facility ... In this facility, we always have LA for the treatment of malaria. We usually run out of Panadol and we tell patients to go and buy the painkiller. There are however other drugs which we run out but they are required for example antibiotics, analgesics and anti-hypertensions.".* One of the nurses mentioned there has been an improvement in the supply of drugs at least "*we do sometimes some critical shortages of some,*

some important medicines. But for the past, past two years, I think we have seen improved. Because, we have never critical shortages of important essential drugs. ... We would have two months without even Paracetamol.". The other nurse at Chitekesa expressed the facility was having enough medicine in stock during the past few months (July, August, September), however now in October and November he/she experienced a shortage.

On the other hand, one of the FHHs believed it was not the case of a shortage of drugs in Chitekesa, but rather "*Chitekesa has enough stock of drugs, but the problem is that they do not dispense the needed amount as dosage. People get 6 tablets for an illness which requires more tablets to finish dosage".* This issue of an incorrect or insufficient dosage of the medicine was also mentioned by three of the other FHHs respondents in Chitekesa. One of the FHHs reported "*sometimes we are given very few drugs, which are less than the required dosage. When you go back to the facility after the treatment, whenever you fail to recover, because you took an incomplete dosage, you get shouted at or sent back from the facility. Without getting the required treatment, because the medical care provider thinks it is not possible to suffer from the same disease twice within a short period of time.".*

Then, one of the FHHs expressed a third related issue to inadequate supply of drugs: "*At Chitekesa, the prescription will be the same no matter how different the diseases patients are suffering from may be. The disease that I am suffering from may be different from this one and that one but we all get the same prescription and dosage."* Another FHH also stated to have experienced twice the issue of receiving the wrong type of medicine for her illness: "*you tell them, so for example, you have a headache. And then they give you Indocin, which helps for like joints and stuff. Like, it is a mismatch of what you are telling them and what they are giving you. So, for example, you have fever, chills and body pains. Normally, here, you would know, without being tested, that it maybe is Malaria. Those are the signs, you know. But then, they give you medication. Like, you know, medication for Malaria is LA. But then they give you something contrary to that."* She added that she thought this was the result of not having the right medicine in stock.

For Chimembe, one of the HSAs reported insufficient supply was an issue of the past: "*In the past clients would be told to buy own drugs if we did not have them in stock but nowadays that is history.".* One of the MA revealed that only once during his stay of 4 months Aspirin was out of stock. The village headman of Mtiza also underlined Chimembe rarely ran out of drugs. All three of the national health care providers I interviewed also reported about this challenge as one of the biggest problems which made people unsatisfied about their health care access. One expressed: "*What they are not happy about is usually the stock out of drugs.*

[Interviewer] is it a regular issue? *Yes, it is a regular issue ... Sometimes it is just logistics. Yeah, sometimes it is budget.".* With logistics was meant *"They could be available at the central stores, but not available in the facilities ... there are various problems [for this]; the transport, the communication."*

6.2.6. Reachability of the facility due to long distances and travel times

Many of the respondents reported reaching the health facility was an issue for them and also multiple health care providers recognised this as a significant issue for their patients concerning their health care accessibility. One of the national HCPs explained *"there are health services, but they are not like in every corner. If you ask patients or communities in that area; for use we need to reach the nearest health centre we have to walk a distance of 40 kilometres, 20 kilometres."* Another health care provider revealed that especially *"during the rainy season, the roads will be impassable. People can get more problems to reach the facility than... [whereby] the solution does not lie within the health sector, but other sector as well. Maybe, the roads department".* Both facilities were mostly reached by foot by the FHHs, regardless the distance or the severity of illness or state of pregnancy the patient is facing.

Most challenges were stated in Chimembe, due to the long distances, as well as the mountainous terrain, which made it difficult to access health care quickly. Some FHHs expressed *"we walk a long distance we would get there around 11 am or we can just say we travel for three hours".* A one-way motorbike ride would cost for them about 2000/2500 MKW, which is for most FHHs out of reach concerning their small income. One of the MAs of Chimembe confirmed most people reached Chimembe by foot. *"If they are far, maybe it takes 2 hours to be here. 3 hours to be here ... Close to 15 to 18 kilometres".* Then, the FHHs would have the option to go the other health facility Chileka, which is still 2hrs walk or 1000 MKW for a motorbike. The other MA of Chimembe revealed some other ways of traveling for some patients: *"some of the villages they have the bikes. Some have the normal stretcher, those that are handmade, they just carry them on their shoulders.".* The village headman of Mtiza shared that *"getting to the health centre, most people walk, it takes 2,5 to 3 hours one way. A few people, not many, in the community have bicycles, and they may take their bike, or some may borrow bikes from others in the community. There are also some motorcycle taxis in the community, these can take one person at a time. This is a cost which is out of reach for most people in the community.".* The FHHs in Chimembe disclosed they mainly use the main road to reach the health facility, since shortcuts were not really shorter and very difficult in rainy season. Some of the other FHHs expressed the difficulty to arrange transportation to Chimembe,

whenever the patient is too ill to reach the facility by foot, even when the money would be available. "*But to go to Chimembe for you to convince the motorbike guy to take you to Chimembe it is hard they are always reluctant because of the terrains and the distance is long*". Another FHH added that especially in the rainy season it was more difficult to reach Chimembe, because of the bridges, whereby the river becomes too full, which makes it challenging to cross. The HSAs of Chimembe revealed, along the same line, that the bicycles they had received improved their possibilities to do their outreach in faraway areas a lot, however in the rainy season the bicycles were pretty much useless, because they could not cycle in the rain and thus delayed their outreach at the designated place. Another HSA mentioned that due to the mountainous features in the areas it was impossible to reach certain destinations by bicycle - also because they need to carry the vaccine boxes all the way with them- and expressed the need for motorbikes for their outreach. One of the MAs confirmed that due to the mountainous terrain riding a bicycle was not for everyone. One of the FHH also outlined this; "*from the Chimembe side walking on foot is really hard, because there many up hills. Sometimes a patient can even get better on the way before you reach the facility and when it is a child because you cannot find other means of transportation it happens that you can lose the child before getting there*".

Then, there has been a motorbike for use at Chimembe, however it has been broken for almost a year, which also created a distance problem for health personnel, for instance if the MAs wanted to supervise the HSAs during outreach clinics. Furthermore, one of the nurses reported the long distances made it difficult to do follow-up care for her with certain patients. One of the MAs noticed, as a result of the long distances and lack of available transportation, that it resulted in postponing behaviour among patients to come later to the facility. One of the HSAs also reported that some people would access and depend on traditional healers due to mobility problems. And multiple health workers at Chimembe dropped that it led to the fact that some pregnant women were delivering their babies on their way to the hospital.

On the opposite, the respondents in Chitekesa lived close to the health centre. One of the older FHHs in Chitekesa mentioned that, even though the distance was close, "*sometimes my boys take me on a bike to the hospital and then wait for me and bring me back*". Another FHH expressed that it would be possible to take a bicycle when conditions are too tough to walk, however, since she did not have her own, it would cost her 500 MKW. If Chitekesa did not have the medicine or treatment, some would walk to Matiya, which was about a 30min bike

ride and thus definitely over an hour walk. One of the nurses expressed that the majority of patients comes by foot. Only those who can afford a bike or motorbike, will use this.

6.2.7. Availability of referral services

Quite related to the previous topic of reachability is the issue regarding insufficient availability of referral services which was reported at both facilities issues. In Chimembe, the HCPs would refer the patient to Queen Elizabeth Central Hospital and in Chitekesa to Phalombe District Hospital. Chimembe was mainly dealing with issues regarding of fuel for the ambulance according to one of the MAs, whereby they shared an ambulance with the health facility of Chileka. If fuel was available the ambulance would be at Chimembe facility within 30 minutes.

In Chitekesa, there was a bigger problem at stake. There was no ambulance availability at the facility itself; the staff always had to request one from the district hospital. One of the nurses expressed *"we don't have enough ambulances here in our district [not more than 3]. Sometimes, the time we need an ambulance, if that, it is so, setting other places. Yeah, so for it to come here it takes long."*. The other nurse confirmed the issue happened about two to three times a week: *"sometimes no fuel, sometimes no ambulance, sometimes one ambulance go around the whole district. It takes long for the patient to be taken."*. This referral challenge was also recognized by one of the FHHs who expressed that from time to times when the ambulance was called, it was engaged in something else. Also, the MA expressed this struggle *"I have a problem with transport. The district hospital is 40 kilometres from here. Tell patients that you have been referred to the district hospital but there is no transport. Sometimes when you talk to transport officers that you have an emergency they do not understand. They will tell you that there is no transport while you are sweating with a patient who needs to be transported to a higher-level facility. When such a patient dies, you will be labelled as not all that helpful while you have tried to offer the help required. People do not understand that there is no transport hence my suggestion is that government should be able to provide transport."* Moreover, one of the other FHHs pointed out another reason why the availability of ambulance services was lower at the moment *"Nowadays ambulance services at night have been suspended. So, anybody requiring the services of an ambulance during the night cannot get it. The ambulance operates during the day only because of fear of being attacked as a result of the blood suckers. ... What happened is that when the ambulance was passing by Chiringa, particularly at Naminjiwa, within Phalombe. Because it was late and getting dark, with the blood sucking rumours going around, people stopped the ambulance. They were asked where the ambulance was going and attacked it. The government directed that all emergencies cases in need of a*

referral at night we have to wait until the following day. It only comes during the day and not at night.”

Also, the national health care providers were familiar with the issues regarding referral services. One of them reported "*The district hospital has ambulances, depending on the size of the facility. But, many ambulances are not in good shape, maybe they are broken down. So, to go and pick a patient from a facility, maybe two or three hours away from the district hospital, that is a challenge. With poor road infrastructure.*" One of the other respondents identified the same problem, but also noticed another issue which indicates a certain inefficiency in the health care system: *"some patients are just referred for conditions which could have been managed at the receiving centre. Just, because they don't have drugs, they don't have skilled workers."*

6.2.8. Insufficient opening hours and long waiting times

The last challenge which is retrieved from the data is the dissatisfaction with the opening hours of the health services, expressed by some participants. For instance, both a FHH in Chimembe and two FHHs in Chitekesa revealed they did not know where to go when her child got sick at night - in Chitekesa even in the afternoon -, because waiting till the next morning could be fatal. Some other FHHs mentioned that they had to wait for a long time at Chitekesa before being assisted and sometimes did not receive treatment the same day, because there were simply too many patients in relation to the capacity of the health workers. For instance, when you got sick in the afternoon you had to go to Matiya, because Chitekesa did not treat patients in the afternoon. One FHH revealed "*If you arrive at the facility with a sick child after lunch you will not get treatment at all. … The facility normally operates from 7:30am to 17:00 hours. … However, the 7:30 – 17:00 hours schedule is not adhered to. The facility practically operates half a day and opens between 8:00am – 9:00am.*". Another FHH added: "*So if he hasn't gotten your book by 12, you will get send away…* [And] *in the past years Saturdays were meant to be half days. Like, up to 12. But then with the new MA, it is Friday. He has a half day on Friday. So, he doesn't help people after 12 on Friday.*". For this reason, one FHH explained to buy her drugs at other places, because it easily saved her a lot of time. During the FGD in Chimembe also some women expressed it took a little while before being attended, however there was not explicitly mentioned this was the case for Chimembe facility. It might have been the case they were talking about Chileka, since they earlier expressed less satisfying opinions about Chileka. One of the national HCPs also reported of being aware that patients had to wait sometimes for hours before being attended.

This section has explained a diverse range of challenges being experienced by FHHs at Chimembe health facility, at Chitekesa health facility or at both places. It has further provided an insight whether these issues were on the radar of the national HCPs, because here are the health care policies made after all. The challenges can be related to either geographical factors, individual context or an interplay, in order to discover the role of this factors on the health care access for FHHs in Malawi. This analysis has been performed in the discussion at the end of this chapter (6.8). First, an insight is given in what kind of consequences these obstacles to health care access bring along in order to better understand the severity of the situation.

6.3. Consequences of poor accessibility

Table 9. Overview of the mentioned consequence of poor accessibility to health care (personal creation)

	Chimembe FHH	Chitekesa FHH	Chimembe HCP	Chitekesa HCP	National health care providers
1.	Conditions deteriorate/ people die	Conditions deteriorate / people die	Conditions deteriorate/ people die	Conditions deteriorate / people die	Conditions deteriorate / people die
2.		Buy own medicine		Buy own medicine	Buy own medicine
3.		Go to paid facility		Go to paid facility	
4.		Stop seeking treatment or stay at home	Stop seeking treatment or stay at home	Stop seeking treatment or stay at home	Stop seeking treatment or stay at home

In this section, the consequences of the barriers to health care services are explained (see table 9 for an overview), since a good understanding of these consequences seem of importance to be able to develop more suitable and targeted recommendations for health care policy makers. It also reveals the seriousness of the diverse obstacles to health care services for all, which should be known by the policy makers which should address these effects of poor accessibility.

The lived experiences of the FHHs revealed that poor health care accessibility can lead to tremendous consequences with a lasting impact. For instance, one of the FHHs in Chimembe enclosed that when she was escorting someone to the hospital, she had to deal with the actual death of the sick child, since the distance was too long. This issue of dying on the way to the facility or at the health facility as a consequence of long distances, long waiting times or inadequate assistance was also reported during the FGD in Chimembe and during the FGD in Chitekesa. The HCPs at Chitekesa also recognised the consequences of bad accessibility,

whereby health care sometimes comes late and conditions have deteriorated seriously. Or even too late – with death as a result - as a consequence of not having enough staff at the facility to provide fast and adequate assistance or due to unavailability of the referral service. One of them frankly expressed this caused about three or four – unnecessary - deaths each month. Another HCP disclosed that sometimes they had to combine patients in one ambulance to avoid disastrous consequences. In Chimembe, the MA also confirmed that it happens sometimes that help comes too late and the person dies, due to a lack of available fuel for the ambulance or because the distance is too far from their place of residence. MA: "*Others failed to get medicine, because of the distance. They just stay there. Maybe seek traditional medicine. Or they will die before they reach this facility.*".

In addition, both the midwife and the village headman in Chimembe reported that also some women face the problem of delivering on the way, since they left home too late and the distance is too long. During rainy season, she encountered more pregnant women who did not come in time at the health facility and delivered at home. Not necessarily because of more difficult road conditions, but more because "*they don't want to get wet*". Moreover, because of the distance, some parents would only start their travels to the health facility when the child shows serious signs of sickness. Then, it is sometimes already way too late, since their conditions just deteriorate quickly: "*you can see if a person is coming from a distance where there's 8km from the hospital it's a big problem for that person to come to the hospital very often so that thing makes them to delay on medical attention sure*".

For the case of Chitekesa, some of the FHHs delayed the moment of seeking health care and some would buy their own medicines, e.g. painkillers, at other health facilities or shops, both as a consequence of bad accessibility. Considering the little money these women have, one FHH still valued these solutions as more effective, because it saves her a lot of waiting time. Some of the HCPs confirmed that some patients would buy their own drugs at shops or 'drug dealers', for instance when there are no drugs in storage at the health facility. One revealed this approach was not always successful "*we have had some cases where the patient, uhm, sought some medication from a drug dealer and did not heal and still came to us.*". Moreover, the MA reported he would tell patients to go and buy their painkillers when there was no Panadol in stock. Moreover, multiple participants mentioned they would seek diagnosis and/or treatment at other health facilities as a consequence of the restricted treatment opportunities and the lack of sufficient drugs supply in Chitekesa. For instance, at the CHAM-facility Matiya, which is relatively expensive, since treatment costs 2000 or 3000 MKW. Another option was the

government facility Mkhwayi, however hereby the patient needs to overcome a lot more distance. Furthermore, some FHHs would seek alternative treatment for instance by visiting the faith healer. And some would give up seeking health care at all. One of the participants at age mentioned this explicitly during the FGD. The MA at Chitekesa acknowledged this behaviour and mentioned "*as health workers we are labelled bad people, because we are not able to provide services as expected by people in our catchment areas. As a result of this some people do not come for services.*". This was also stated by other health care workers; some of the people do not seek care, since they do not have money to pay for services at other places when there is not enough supply in Chitekesa available.

The consequences of poor health care accessibility as has been highlight here reveal a severe situation, which should not be neglected by the Malawian health care policy makers. It shows a situation where deaths happen which could have been avoided with a better functioning health care system. As has been disclosed earlier in this chapter, certain changes are already happening in the Malawian health care system to avoid more of these unnecessary deaths. The next section, will highlight some further undertaken initiatives with the aim to improve health care accessibility within the communities.

6.4. Undertaken initiatives to tackle the existing barriers

Table 10. Overview of undertaking initiatives to tackle barriers in accessing health services (personal creation)

	Chimembe FHH	Chitekesa FHH	Chimembe HCP	Chitekesa HCP	National health care providers
1.		Report problems to someone	Report problems to someone	Report problems to someone	Report problems to someone
2.			Collaborate with NGOs	Collaborate with NGOs	Collaborate with NGOs
3.			Encourage patients to come earlier	Encourage patients to come earlier	
4.					Exposure of problems
5.			Health advisory/centre committee	Health advisory/centre committee	Health advisory/centre committee
6.				Provision of facilities	Provision of facilities

During the qualitative data collection by exploring the various challenges regarding health care accessibility in the areas of Chimembe and Chitekesa, I became interested to find out about the certain initiatives that have been undertaking by the FHHs, community or HCPs themselves to

solve certain of the existing obstacles. This data might reveal interesting insights for potential recommendations for Malawian policy makers to follow-up with. Table 10 gives an overview of the expressed initiatives that have been undertaken. It becomes immediately evident from this table that there has been little undertaken by the FHHs themselves in order to challenge their barriers towards health care services. This resonates with the earlier findings of chapter 5, where was identified that the agency of FHHs to initiate changes by themselves is limited.

On the other hand, the responses of the HCPs reveal a lot more initiatives being undertaken. For instance, in both areas the important role of the Health Advisor Committee (HAC) in addressing the existing issues was reported. The HAC forms a bridge between the health care users and providers. The MA in Chimembe mentioned their HAC has been capable to mobilise small funds from the chiefs to buy small equipment and resources for the facility, e.g. mops, buckets. In Chitekesa was mentioned by one of the nurses that they ensured the supply of drugs was safeguarded and protected from drugs vendors. Furthermore, one of the HSAs in Chitekesa reported they raised finances by making health care users pay to store their bicycles in a bike shelter: "*with the money from the bicycle shelter the committee built a guardian's shelter, a toilet and two bathrooms. They also buy units for electricity for the health centre and repair the borehole. On an ART day, there are many bicycles and there were reports of some bicycles being stolen. This is why the committee decided to construct a bicycle shelter.*". Next to this, one of the HSAs in Chimembe mentioned the creation of a Home-Based Care committee, whereof the members take care of chronically ill people in their community.

Furthermore, HSAs and MAs in Chimembe pointed out that the District Health Management Team or the (DHO) visited the health facility from time to time (e.g. every three months), whereby they could explain their problem to them. This resulted lately in that they received a shared ambulance with Chileka. In Chitekesa, it was expressed that the problems were reported to the TA, who would contact the DHO to inform him about the existing issues. Moreover, some HSAs stated they were accompanied by the TA to do their outreach in particular volatile communities. Or by a NGO who has the impact to sensitise the community of the need to use modern health care services. Besides this, health care providers at both facilities encouraged people to seek health care well ahead of time. For instance, the midwives encouraged women in labour to come early to the health facility where they could have shelter and wait till labour starts.

Not only initiatives have been undertaken by HCPs at the health facilities itself, also some governmental and non-governmental action was mentioned to enhance accessibility. For instance, in Chitekesa was reported that more toilets and a mortuary are about to be build, which might enhance accessibility more, because the lack of toilets were mentioned as an issue in accessing health care services. Moreover, NGOs, such as, Save the Children had provided trainings to the HSAs in Chimembe, so they could run small clinics in the further located communities. Furthermore, they assisted in drug provision when the Central medical hospitals ran out. Next to this, the MA explained the presence of three other organisations to enlarge accessibility (e.g. Management Services for Health, my condom and Egg baffle) and in Chitekesa assistance of Dignitas was reported. At the government side, there was just a process of decentralization initiated to address some current challenges (3 months ago at the time of the interview). Hereby, the power and responsibilities of the headquarters has been decentralised towards the district councils, which are in immediate contact with the health facilities themselves to make the communication lines shorter. This should be more efficient to address problems adequately whenever a health facilities faces issues. However, some struggles with this new system were already recognised "*some areas are not so clear on how they operate in the new structure. For example, the recruitment of health workers. ... Because, it was the Headquarters that start recruited health workers and deployed them to districts. Now, with this new arrangement, we don't know whether the districts will recruit or the health workers will be recruited here and send to the districts. That is still not clear and a few other areas, are still not clear. ... the challenge is mainly transportation and communication. Yeah, some facilities are not having clear communication links with the district.*"

Then, CHAM mentioned that whenever there is a challenge discovered, "*They liaise with the communities to come up with solutions to come up with 'how to deal with these problems'. So, there has been those consultative meetings with the communities at a local level.*". According to a representative of the Red Cross also the national media has played an important role to highlight issues regarding accessing health care services. As well as, the respondent recognised commitment from the government, however "*we are there to see this commitment translating to the real action.*" This representative also highlighted this 'lack of real action' resulted in a shift among the public health care workers towards the private facilities. The Red Cross has been an active actor in Malawi – besides the MoH and CHAM – in improving accessibility, for instance by activities as strengthening community systems – by implementing home-based care, sensitisation of communities, outreach services to the most remote areas and malaria programs -, implementing community governance in health care

decision making and exercising humanitarian diplomacy to engage government and other actors.

This section reveals that diverse actors are aware of the existing issues related to health care accessibility in the Malawian health care system and also try to come up with certain efforts to ignite certain developments within the system. Some of these initiatives could perhaps be an inspiration for Malawian health care policy makers, for instance to be expanded to a wider area in order to be able to tackle more of the existing issues. Furthermore, this section has shown that there exist also collective efforts undertaken by the community, which seem to be of value, since this saves the Malawian national HCPs efforts, because they do not need to tackle all the existing issues within the community.

Then, lastly, before heading to the discussion section of this chapter. I briefly want to introduce, in order to balance the interviews and FGDs, that not only negative experiences regarding health care accessibility have been expressed. Some of the satisfying elements of Malawian health care access are provided in the next section.

6.5. Satisfaction of health care accessibility.

As was illustrated previously, a lot of dissatisfaction with health care services has been expressed with sometimes severe consequences. Nonetheless, also some positive thoughts have been expressed by my respondents about their access to health care services. This section will briefly highlight some of these experiences.

One of the FHHs involved was only positive about her health care experiences; about the staff, quality of care, quickness of treatment, supply of medicine, all of it. She expressed "*to tell the truth, I have never had a bad experience there [at Chitekesa]*". Most other FHHs were able to highlight something positively about their health care access as well. For instance, the proximity of Chitekesa, since they could always go there by foot to receive services free of charge. This was also expressed by the MA and HSAs of Chitekesa as one of the main motivations to come to Chitekesa, being it free of costs. One of the FHHs also mentioned she was content that for some community members supplementary food was provided, for instance for those living with HIV in order to enhance their resilience for illnesses. Furthermore, a FHH reported to be positive about the supply of medication and treatment and another FHH added that there was luckily no drug pilferage at Chitekesa happening. Some of the HCPs confirmed they had seen

an improvement in the storage of essential drugs for the past two years. Some FHHs also expressed to be grateful that the facility of Chitekesa is getting bigger with new facilities - such as the maternity wing, toilet blocks and new pharmacy - so more types of services can be delivered close to her home instead at Phalombe hospital. This argument was also brought up by one of the nurses stated who was content with the variety of services offered, including treatment of infections and diseases, vaccinations, maternity services and ARV treatment. And having electricity these days. Other thoughts of the HSAs were that satisfaction at Chitekesa was caused by the proximity of the facility, the availability of qualified health personnel and the quick service thanks to the high number of medical personnel.

In Chimembe satisfaction was mentioned by the FHHs with the appropriate treatment they received in the form of correct and sufficient medication and assistance to solve their health issues. *"What I like when I go to the hospital, when I get there, if it is me or my child, and tell the doctor the problem that I have, when they have the medicines once diagnosed I get the right medicine. When I follow the dosage, I get better at the end of the dose, so that makes me happy that I got the right medicine and I got better."*. The FHHs preferred Chimembe over Chileka, although Chileka was closer by and easier to reach, due to the quality of care they obtained. One of them said "*at Chimembe you get adequate medicine and you get better that is why we stick to Chimembe, because we get the right help comparing with the other facility."* Another FHH highlighted the good service provided by the staff of Chimembe *"[I] also like at Chimembe is that they open the hospital in good time compared to Chileka, and at Chimembe you can speak freely to the doctors than at Chileka. Even when they give you the medicine at Chileka they do not explain the instructions properly compared to Chimembe"*. Furthermore, some of the HCPs mentioned to be satisfied with the structures. One of the HSA reported they were good enough to ensure client privacy, and that there was nutrition available for those in need. The nurses expressed their satisfaction with the pick-up service from the ambulance of Queen Elizabeth Central Hospital in Blantyre, which they referred to everyday. According to one of them: *"[they come] very quick, especially when its maternity. They come, they respond sometimes we will delay, [because] we don't have this, we don't have that, but at the end still they will come"*. She also had the feeling that her patients do appreciate the service of Chimembe, which was also pointed out by one of the HSAs: *"they walk a long distance and get treated in no time. This is what makes them feel happy with healthcare access at Chimembe. The quick treatment they get compensates for the long distances they travel … We have two Medical Assistants at the facility. This development has ensured that at no time do the clients*

get turned back because there is no health care provider. … Having two Medical Assistants speeds up work and reduces congestion. This has improved efficiency in service delivery hence making the people happy.". One of the MAs thought patients were happy, because the staff did not shout at patients, what sometimes does happen at other facilities - like Chitekesa -, and because of the wider opening hours and quick service delivery. Then, he added that patients were maybe also happy, because the death rates were low at his facility. The traditional healer valued the health system, such as the number of HSAs who go into the villages, who, besides treating children and patients, also shared information about health, nutrition and sanitation and distribute mosquito nets, chlorine and basic drugs.

Moreover, the national health providers also had some positive thoughts upon the health care situation in Malawi. One of them stated to be satisfied with the location of the CHAM health centres, since those were mainly located in hard to reach places. Next to this, he was content with the system of having small costs attached to drugs, since this has as result that nobody can abuse or steal drugs. Moreover, another national HCP mentioned*: "the technical capacity that we have … we still have many trained people in the country. We have doctors, we have trained pharmacists, we have trained clinical officers. So, to me, the skills are there. And also, the donor partners. … Even the brain drain is not really as before, because we now have a big overpass."*. Furthermore, the decentralisation process was highlighted as a positive element *"because at the local council level, they will be able to know which area needs to more support, which area is a bit far from a facility and balance up things… the response will be delivered quicker and more efficient"*.

Satisfaction about access to health care services is defined differently by various users of the system, whereby it is not any different from the variety of obstacles that one may enact while accessing health care services. Actually, this section confirms the elements that were not explicitly expressed as an obstacle were unambiguously reported as being perceived as satisfying. When the two study sites are compared, I may conclude that the HCPs at Chimembe expressed a lot more content about the functioning of the facility than the HCPs in Chitekesa, which corresponds to the general argument of a lower level of care perceived at Chitekesa. The next section describes in further detail what factors specifically cause these different feelings of satisfaction or challenges among health care users and providers.

6.6. Discussion

The lived experiences regarding obstacles and satisfaction in perceived health care accessibility were uncovered in this chapter. Some of these obstacles have been caused by geographical factors, such as the distance and mountainous terrain in Chimembe catchment area and availability of clean water in Chitekesa. While other obstacles were only experienced by some of the respondents due to their individual circumstances, as discrimination by health care providers or no access to transportation means. Then, some of the issues have been confirming the wider health care accessibility literature, as well as some of the challenges seem to be novel in this study such as the demanding behaviour of patients or discrimination of FHHs. In Chimembe the issues expressed were quite similar for both the FHHs and the HCPs. While at Chitekesa some more variety can be identified, especially since the behaviour of health care personnel and health care users is differently experienced by FHHs and HCPs. The next section highlights the unique perceptions, as well as confirmations of existing knowledge that have been explored in this study.

The various obstacles experienced by FHHs and HCPs reveal that more factors than geographical measurements have an influence on health care access. Hereby, this chapter reveals a relevant issue to take into account for Malawian policy makers, since the current indicators of health care accessibility in Malawi solely exist out of geographical measurements.

Currently, Malawian accessibility is assessed by the criteria whether every Malawian resident lives within an 8-km radius of a health facility providing essential health care services free of charge (Government of Malawi, 2017). As chapter 4 revealed, the districts where Chimembe and Chitekesa belong to, are in the Malawian health care policies not marked as problematic districts regarding this access criteria. However, the respondents in this study have experienced the opposite and did mention that they experienced difficulties regarding geographical access. The FHHs in Chimembe catchment area were living in Mtiza, about 15 km away from the nearest health centre, and also for the catchment area of Chitekesa was mentioned that people did live further away than 8 km, near lake Chilwa. During the participatory mapping exercises and FGDs and interviews the respondents were able to display and discuss the concept of distance in relation to access more concretely. Some recognised during the drawing exercise that it was really a long distance they had to overcome and others mainly expressed the troublesome long traveling times. Furthermore, also geographical barriers as rivers, mountainous terrain and climatological events as rain as obstacles regarding their health care accessibility, which was expressed at both study locations. These outcomes indicate

that distance is a significant and meaningful issue in terms of health care accessibility and satisfaction for FHHs, as confirms the existing literature for other population groups (Shannon et al., 1969; Shannon & Defer, 1974; Pyle, 1979; Buor, 2003). Furthermore, the respondents highlighted that the consequences of these geographical obstacles hampering health care access are tremendous, for instance by resulting in unnecessary deaths. This reveals the severity of the challenges diverse FHHs face regarding health care accessibility challenges, and should therefore be seriously addressed by the Malawian health care policy makers to ensure healthy lives and well-being for all.

Then, besides defining distance in spatial terms with geographical barriers, it seems to be evident that social distance is of significant impact to influence the individual obstacles experienced regarding health care access in this study. Hereby it confirms earlier studies whereby the relevance of social distance upon distance decay has been explained (Olsson, 1965; Okafor, 1990; Müller et al., 1998; Buor, 2003). My data discloses that the relationship between the patient and HCP highly matters in seeking health care at the most proximate facility, somewhere else or, in worst case, avoiding the use of modern health care. Both FHHs in Chitekesa and Chimembe mentioned to prefer to surpass the most proximate facility and walk for over an hour in order to receive better assistance at another facility, which is in line earlier findings for Nigeria by with Stock (1987). Hereby, both examples of the behaviour of HCPs – insulting patients, refusing treatment to patients - as the lack of enough skilled personnel have been revealed to affect the perceived accessibility of FHHs. This latter issue is well known among national HCPs, who originally hired new health care workers, however it is difficult for them to tackle the obstacle, as a result of lack of finances. These challenges regarding behaviour and availability of health care staff are not endemic for this study and have been earlier reported, which also shows the worrying outcome that little progress has been made the past five years (Kambala et al., 2011; Munthali et al., 2014).

This little progress suggests the need for health care policy makers to develop more innovative solutions, since governmental budgetary issues are not easy to overcome in general. Unfortunately, the scope of this study has been too limited to propose a concrete solution for this obstacle, since the wider context of Malawi and its economic situation should be taken seriously into account to provide a sustainable solution. Nevertheless, one of the nurses did reveal an interesting suggestion to delegate more tasks and small responsibilities to volunteering community members to assist the health care workers. This suggestion has been further explained in chapter 8.1.

Another obstacle related to the individual context of the patient became visible in my analysis; the challenge of affordability of health care services in itself and/or transportation to reach the health facility. The responses of the participants substantiate the earlier statements of Penchansky & Thomas (1981) who included affordability is an one of the five dimensions of access. My data shows, that for some respondents affordability is comprehended as the same as access, because they state explicitly that having money allows one to seek health access. the other way around, when health care is offered for free, it is immediately accessible. Other FHHs explain the issue of affordability in a bit more detail; they face especially challenges to afford transportation costs to health facilities or to pay for medical services at private facilities. These responses confirm earlier findings in the context of Malawi reported by Abiiro et al. (2014), Ustrup et al. (2014) and Watson et al. (2016).

In addition, some of the HCPs expressed that perhaps lack of financial resources was not the only issue in terms of obstacles in affordability, but also the mind-set of the population who could only think in terms of money instead of effectiveness. For instance, in terms of effective health care, paying a small amount at a facility close by could outweigh the consequences of walking a long time to receive free health care services whereby conditions might have worsened. This might reveal an interesting insight for health care policy makers; one should not only concentrate on supply-side issues when aiming to develop effective health care policies, as is the current case in Malawi as has been outlined in chapter 4.2. It is of importance that health care policy makers adopt an integrated approach towards addressing both supply- and demand side issues of the health care system. Hereby the focus should lie on making the Malawian population aware of effective health seeking behaviour and opportunities, in parallel with addressing the issues of (high) costs for health care services at the supply side, in line with the previous studies of Shengelia et al. (2003) and Abel & Frohlich (2012). Moreover, this indicates there is a need that both sides should become aware that collaboration with each other is a need in other to achieve the bigger collective objective of equitable and adequate health care for all (Andersen, 1995; Rifkin, 2003).

Such an integrated approach might also be beneficial for the dependency issue of CHAM facilities on governmental finances, since as a consequence by making health users aware of more effective health care behaviour, their number of patients will increase again. It is of essence for the Malawian health care environment that the CHAM facilities remain accessible, since less functional health facilities in rural areas of Malawi will only contribute to deteriorated health care access for everyone. This should be avoided at all costs.

Next to this, my data revealed that the use and also the consideration of traditional medicine as part of the Malawian health care system is something what is shaped by individual context. All of my respondents, except for one, stated to seek access at public or private facilities. She preferred the use of traditional or religious healers, since she believed this was the most effective way of treatment, which corresponds to earlier reported findings of (Gesler & Meade, 1988); Munthali et al. (2014). Then, some respondents did not even include traditional medicine when I asked them to describe the Malawian health care system. respondents reported to

These responses indicate that the level of integration of traditional and modern medicine remains low in Malawi. Actually, a further segregation between the two types of medicine can be notified, since the use of traditional medicine has been discouraged by the Malawian government by prohibiting certain traditional practices as TBAs. Furthermore, the use of modern health care has been promoted through sensitisation and education campaigns by HSAs. Hereby, Malawi seems to be part of the majority of countries were traditional and modern health care are not integrated or complementary to each other, but whereby traditional medicine is pushed into the subordinated role within the health care system (Hyma & Ramesh, 1994). The immediate consequence of this is that indigenous and traditional knowledge obtains a marginalized position within the Malawian health care environment. Next to this, when the benefits of traditional medicine are recognised by modern health care practitioners and an integrative system will be adopted, the overall health care accessibility will increase since traditional health care providers are already present in rural areas of Malawi.

Then, my data revealed there has been a third type of obstacle to health care access at stake, being neither geographical factors or due to individual context. Those obstacles have been collectively experienced by the respondents. An example of this is the supply side issue of insufficient supply of equipment and tools, as well as a lack of adequate structures. This was extensively mentioned as an obstacle, even though already some progress was identified through the exploration of the changes at both study sites. This supply side issue confirms earlier findings of Kambala et al. (2011); Abiiro et al. (2014). Some of the health care policies have mentioned the lack of sufficient structures to cover health care accessibility for all, however financial means to improve the situation have not been present. However, it is an issue of urgency, since it results in lower quality and adequacy of assistance, because HCPs have to improvise and make the best with what they got. This might have as a consequence an impact on the individual experienced obstacles, since it influences social distance between HCPs and

patients. Patients receive less adequate care, which affect their relation of trust with the HCPs, while, in parallel the satisfaction of HCPs about their work is hampered due to lack of sufficient equipment and might cause a shift towards private facilities, where all the supply of equipment and degree of fit of facilities is a lot better. This would be devastating poor patients who do not have the money to pay for these private services, as well as for the entire public health system which already faces a vacancy rate of 50%. Thus, once more, this structural issue at the supply side, with consequences for the demand-side, highlights the need to tackle obstacles regarding accessibility with an integrated approach, whereby both demand- and supply-side issues are addressed at the same time.

Another collective experienced obstacle has been the absence of an appropriate and well-functioning referral service system. The respondents expressed various obstacles in the referral services from health centres to district hospitals; such as ability to afford fuel for the ambulance, and lack of sufficient available ambulances in place. These findings confirm the earlier outcomes of Abiiro et al. (2014) and Kambala et al. (2011) for the Malawian context. In addition, was mentioned that the referral service system was not optimal, since patients were regularly too early referred to district hospitals while the issue should have been treated at the health centres themselves. This choice of early referral was indicated as a consequence of the lack of enough health personnel and sufficient supply of medicine to provide the accurate treatment at the local level, which highlights the interrelatedness of obstacles once more. A suggestion from the community members has been to make use of bicycle ambulances (bicycle with a stretcher) for shorter distances and to be able to pick up sick people at their houses. This has for several other African communities, facing similar geographical challenges, been a successful solution according to Forster et al. (2010). On the other hand, Lungu et al. (2001) could identify whether it is of effective overall.

Furthermore, the supply side issue of 'lack of sufficient supply of drugs' may be identified as a collective experienced issue. According to my respondents, the Malawian health care policies, as well as previous scholars this was not a novel supply-side issue (Akerele, 1987; Gatrell & Elliott, 2002; Abiiro et al., 2014). Most of my respondents addressed that this issue was evident and a barrier to access health care services, being it in the form of receiving an insufficient dosage, the wrong type of prescription or no availability of drug at all. This supply-side issue of lack of available medicine causes also challenges for HCP and their relation with the patient, since they have to disappoint or refuse patients with the news that drugs is not available.

Furthermore, it has consequences for the opening times of the health care facility, which might result in a further reduction of trust among health care users. Consequences of this have been expressed in recalcitrant behaviour among community members, accusations by patients of drug pilferage among HCPs and the existence of a black market for medicines. It may also result in disastrous consequences as has been revealed, because certain patients did not have the financial means to afford drugs at pharmacies or private facilities. The national HCPs have been active to tackle this issue to a certain extent by implementing the decentralization process. The aim of this process is that distributional problems, as a result of hierarchical communication, might be solved. However, the dysfunctionality of the system might on the other hand be supported by the wider contextual and structural factors of corruption in place in Malawian society, and therefore extremely difficult to tackle (Anders, 2002; Hussein, 2005; Tambulasi, 2009).

Next to these various obstacles related to geographical factors, collective structural factors or individual context, changes have been identified which contributed to better access to health care services. For instance, the recent development in making use of information and communication technologies by HCPs to provide a higher standard of care for their patients, as was the case in Chimembe. The ICT related technologies in the health care environment (eHealth) of Malawi are not very far developed; they are mainly based on SMS or computer systems, since the availability of internet and even just network remains still limited. The offered services would be better described as mHealth technologies – mobile phone based technologies - according to DeRenzi et al. (2011). In line with the statements of Fortney et al. (2011) and DeRenzi et al. (2011), the use of mHealth services provide a solution for certain obstacles previously faced regarding health care accessibility. As the HSAs explained, the SMS services enabled them to offer more accurate and timely follow-up, as well as to save time which results in a higher number of treatments per day.

The level of mHealth or eHealth in Malawi is still in its infancy, there is a lot of room for digital developments in the Malawian health system to enhance accessibility. However, to accelerate these kind of innovations, first of all general information and communication structures in Malawi have to be improved (e.g. electricity structures to allow phones to charge, internet and network coverage in rural areas).

All in all, this chapter has been aimed to uncover which factors explain the identified divergence between measured access and perceived access to health care services. The qualitative

exploration of the lived experiences of FHHs at two study sites allowed me to get an understanding of which factors influence their health care access. The data has revealed that geographical factors, as distance and type of terrain, explain particularly the measured access to health care services. Hereby, these factors immediately explain some barriers to access experienced by all FHHs who were living far away of the respective health centre. Furthermore, this chapter has revealed that these FHHs either experiencing good or poor measured access, were also experiencing other barriers to accessibility. Some of those factors were dependent on their individual context, such as social relation with the HCP and affordability of care. Other factors were collectively experienced by the FHHs as a consequence of supply side issues, however non-related to geographical circumstances, such as lack of sufficient medicine, absence of well-working referral system and lack of sufficient equipment at the health facilities. Both these individually and collectively experienced challenges, non-related to geographical circumstances, have an influence on their perceived health care accessibility. Furthermore, this chapter has given some examples that it is relevant to take into account the interaction between these geographical, individual and collective determining circumstances regarding health care accessibility, since they might reinforce each other positively or negatively.

This chapter has disclosed that when health care accessibility is assessed, one has to look further than the geographical dimensions of access, by also taking into account other individual and collective dimensions of access and their interactions with each other. And thus, Malawian health care policy makers should act beyond the spatial planner mind-set by taking into account demand-side barriers to access as well to develop a more effective and equitable Malawian health care environment. In the next chapter, some further recommendations have been proposed.

Chapter 7: Including regularly unheard voices into development processes

The previous chapter has provided an insight in which obstacles as a consequence of geographical, individual and/or collective circumstances have been identified regarding health care accessibility of FHHs. In this chapter, a further analysis will examine and explain what the impact could be of including regularly unheard voices into spatial development processes. First of all, attention is paid to the level of situational knowledge existing among the FHHs and HCPs in Malawi. Furthermore, the value and also challenges of involving less dominant voices into spatial development processes, whereby as well is concluded whether an approach of including regularly unheard voices is of value.

7.1. Level of spatial knowledge in Malawi

First of all, with the participatory mapping exercise I aimed to get a sense of the current level of situational knowledge among the participants. I used their experiences and perceptions to get an insight to what level their involvement could be beneficial for more inclusive and equitable development of the Malawian health care environment. Even though, it was for some participants the first time in their life they saw a (satellite-based) map and were asked to draw a map, this did not limit their participation or ability of understanding the two exercises.

The MA at Chimembe health facility indicated that people in his catchment area were not familiar with maps. This was confirmed by one of the FHHs who expressed she never used or had seen a map in her life before participating in the FGD. Furthermore, the other FHHs during

Image 4. Interpretation by FHHs of the satellite map, in Chitekesa (personal image)

the FGD in Chimembe had to giggle in the start of the exercise, because they had never done something similar before and felt uncomfortable they could not make it pretty enough. Then, the traditional healer revealed his unfamiliarity with maps by expressing he had only used a map once in his life, which was at primary school. The MA himself mentioned he was familiar with maps, however did not use them in his daily work. Also in Chitekesa most participants revealed that they were not familiar with maps by showing

discomfort when the maps were shown by starting to giggle, also one of the nurses mentioned it explicitly that she was not familiar with maps.

The HSAs at both health care facilities were using maps in their daily work activities, so the exercises I gave them were not necessarily new for them, although they did express that they never had seen a satellite map before. However, this did not create any difficulty for the HSAs at both locations to interpret the maps and to identify certain features with ease, such as the health facility, schools, house of the TA etc.

7.1.2. Spatial knowledge among FHHs

At both study sites the FHHs also participated in the qualitative mapping exercise during the FGDs (see images 4 and 5). In both places, they were able to draw a map of their community, including the health facilities were they usually used health care services (see image 6 and 7). Active participation during the mapping exercises was limited to about three active participants, who really took the pen to draw, whereby the others from time to time just added some information or suggested amendments (see image 1, chapter 3.2). On the other hand, the women had a lot more difficulties to interpret the satellite map of their respective communities (see images 2 and 3, chapter 3.2). For most FHHs it was the first time of their life to be encountered with either maps or such a geographical perspective of their community. One of those FHHs expressed "*it was the first time, I saw it is a long distance I have to walk to Chimembe, because I had to draw the whole road.*" (see image 5). She also signified she valued the mapping exercise, since she learned from it and would find it interesting to participate in more of those similar exercises.

Image 5. Map drawing exercise by FHHs in Chimembe (personal image)

During the FDGs in Chitekesa, one of the FHHs stated: "*Maps are important. When you have the map, you go straight to where you want*". In Chimembe similar answers were reported "*the map can be helpful because it will help one to move from one place to the next until you get to Chimembe you can even ask for directions.*". One of the other FHHs said that sometimes she would like to use a map when a visitor came in the village to give directions. Another reported that she could use it to explain to others where she was living if she needed to get a lift home. And one said: "*If I need to go somewhere a map is helpful, if I don't know a place I could ask with the map*". It was also revealed that the map was sometimes used by health care providers, to indicate where patients are residing in order to provide enhance their health care. The next section, provides a further insight in the level of spatial knowledge among HCPs.

Image 6. Map of FHHs about health care accessibility in Chimembe (personal image)

Image 7. Map of FHHs of health care accessibility in Chitekesa (personal image)

7.1.3. Spatial knowledge among HCPs

The HSAs were in possession of a map of their catchment area at both health facilities. This map was divided in several smaller sections, whereby each section portrayed the 'working area' of one of the HSAs (see images 8 and 9). Since the HSAs were already familiar with drawing

a map of their community and using this map in their daily work activities, we skipped the drawing exercise in Chitekesa. The HSAs here could show us a map they had drawn before. In Chimembe, they did draw a map, because they were not aware where their current map was at the moment. Then, we did share the satellite map in both FGDs to explore their level of spatial interpretation of the area. During both FDGs, the participating HSAs could easily identify and link the features of the map with the existing features in their community (e.g. school, health facility, water pump etc.).

The interviews and FGDs revealed that people employed at the lower levels of the health care system used maps most actively. In Chitekesa, the HSAs revealed they made use of the map to figure out how they most efficiently could deliver health care services to difficult accessible areas. For instance, they used the map to decide what road to take in case another one became impassable (e.g. due to weather conditions or a big tree on the road). One of the HSAs in Chimembe revealed how they maps were used in their daily work: "*Maps are very useful as far as our work is concerned. If we want to go to a particular community for healthcare services, we look at the map to see how we can get there. We have to identify the features that can help*

Image 8. Map of HSAs about health care accessibility in Chimembe (personal image)
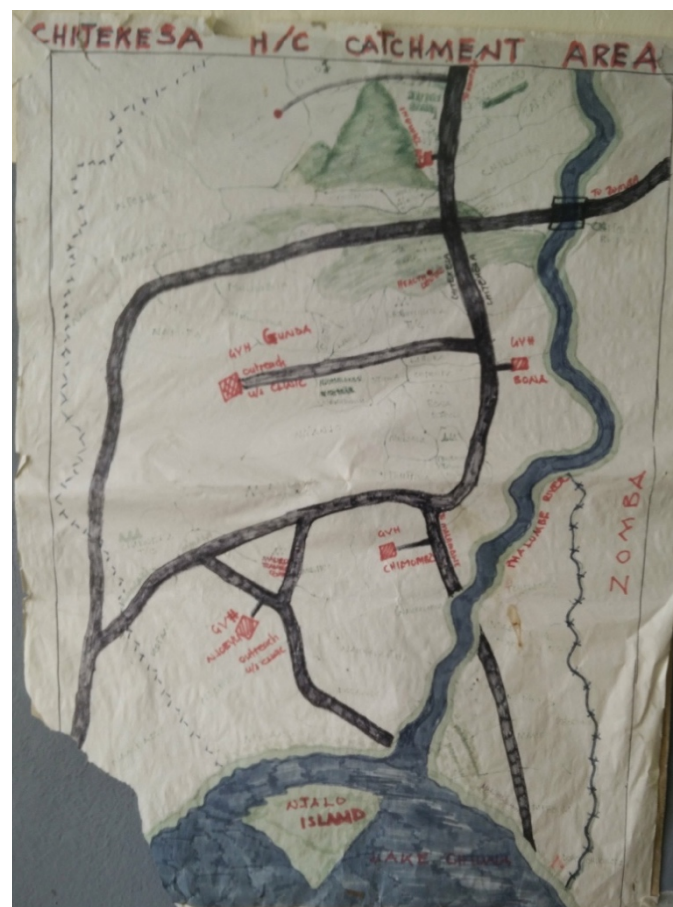

Image 9. Map of HSAs about health care accessibility in Chitekesa (personal image)

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us locate the place like mountains, rivers, some structures like ADMARC, etc.". Another HSA added to this: *"It is because of the maps that we were able to identify where to open outreach clinics in various communities of the catchment area. We had to identify hard to reach areas, using the features on the maps. In these hard to reach areas, where we have established Under Five Clinics, people had problems accessing health care services for their children, due to long distances to the health centre and geographical barriers. The establishment of the outreach clinics has helped to improve health care access courtesy of the maps which were used to locate these places."*

Furthermore, the HSAs revealed they inhabited good knowledge of using maps effectively to improve health care access for the people of their catchment area. For instance, for the allocation of the under-five clinics in Chimembe catchment area, they considered factors as *"the distance. Most of these are more than 8km from the health facility. People from such areas had trouble coming to the health facility for Under Five services. Geographical barriers like rivers hindered people from accessing health care particularly when the rivers are impassable during the rainy season."* Moreover, the HSAs expressed they made use of maps to track down Tuberculosis patients: *"When registering TB patients, we try hard to investigate and record physical map of the client's home. We do this for easy following up. The health care provider uses the recorded map to locate the client in his/her village."* Or when there is some other disease outbreak in the community, *"we check the map to locate the exact affected area and find means of getting there. When you have the map, it is easy to locate the targeted place."*

The level of spatial knowledge and comfort with utilising maps differed extensively between the HSAs and other health care providers. For instance, the medical assistant of Chimembe, considered the maps as useful to have a sense of what the size of his catchment area was and to locate where the furthest patient was living in his catchment area, however he left the actual use of the maps for the HSAs. The other MA explained that maps were not used at Chimembe health facility, which indicates he was not well aware of the activities of his fellow health care providers and perhaps lacked a certain appreciation or knowledge of using of geographical data. Moreover, the nurses at Chimembe seemed to be quite unfamiliar and unexperienced with using maps in their work. One said she never used them, but thought they could be useful to indicate how far the area was. The nurses at Chitekesa also reported they were not directly using the maps and their familiarity with maps was limited. Mainly their colleagues, the HSAs, used the maps *"to know areas that are more vulnerable. Areas that need more attention.".* The traditional healer expressed his appreciation for the mapping exercise *"a very interesting*

experience and very helpfully. I was following that was happening. And what was more interesting was the google map. So, I was very happy to see that somebody just going up in the air was able to see where they were [there]. ... that map can be very powerful, ... during the discussions people were using the map and able to say this is what we need here. And through that map, I think it would be easier to communicate to the authorities for things that they lack here."

Then, I have also incorporated the level of knowledge present among the national HCPs to obtain a more comprehensive understanding to what extent the inclusion of regularly unheard voices can be more beneficial, since they are the dominantly involved voices. At the national level of health care provision and policy making, I identified actually a different level of knowledge of maps and geographical data. One of them reported that maps were not regularly used in their work to ensure good health care provision. Although the application is limited, the potential of maps was recognised: "*it is something which maybe we should use to identify areas which are in demand of these services. Yeah, so with the map you know, let's say, the populations and see is it maybe a larger population, which can benefit from a facility. Yeah, so it can help in planning*". On the other hand, another nation HCP mentioned they were using maps, nonetheless they were still in the initial stadium: "*We are able to do this in the health system, but just as an introduction. We have started a project, subsidised by the EU, and we are mapping villages. We are mapping what, like we are getting places that are most vulnerable. For example, they are prone disasters or prone to diseases and all that…. There are opportunities, because, thinking about mapping, you can map places that are more resilient… And also places that are vulnerable. Example for cholera, they are looking also at the, what we call, disease prevalence system. Cholera has hotspots. So, if you map these, you can easier manage Cholera. ... I would say, it is something that we need to do more.*". The third national health care provider expressed that maps were used in his organization to analyse the accessibility of a health facility, mainly at the district level., which was also expressed by the HSAs and some other health care providers at the district level. The participant mentioned: "*Especially, at the district level, they use maps to know the distance from the district hospital to the other facilities. So that they can use that information in terms of maybe logistics, distribution of medicines and supplies. And they also maybe planning for budgeting, for maybe the travel they are expected to do around the district, for supervision, for referrals and so on.*" This suggestion of potential opportunities to use maps at the district level might be a bit out of balance considering the current level of utilisation I noticed at the health centres, however it

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does reveal a certain level of knowledge of how maps can be utilized. I could derive from this that it would be useful to transfer this existing knowledge of making effectively use of maps in the health care environment from the national level to the district level. This might indicate a potentially an interesting opportunity for further exploration to assess more effectively and to enhance accessibility.

7.2. Discussion

The exploration of the previous perceptions and experiences provide an insight into the current level of spatial knowledge among regularly unheard voices in development processes; the FHHs, as well as local Malawian health care providers. Although the information is not exhaustive for representing the exact level of spatial knowledge for the whole of Malawi, it does a provide a valuable contribution to the limited amount of existing information about local spatial knowledge in Malawi. (e.g. Haan et al., 2000; Bosak & Schroeder, 2005; Gibson et al., 2013). Hereby, the participatory exercises played a valuable role, since it enables me to get a sense of the current level of understanding of maps among the participants. As well as their ability to locate spatial features, since they could simply show their level of knowledge instead of explaining it vocally. Furthermore, the maps assisted in communicating our level of spatial knowledge to the FHHs; for instance, by showing them for the first time in their life a satellite map. In addition, another intention of the participatory exercises was to create a more informal atmosphere by starting with a drawing exercise, so the participants would feel more at ease to openly, but confidentially, express their perceptions and experiences. It is difficult to state if this was successful, also considering the giggling at the beginning, however some of the women did mention they thought the exercises were fun and, besides this, they actively participated and expressed themselves in the groups.

The participatory mapping exercises have provided an insight into the existing spatial knowledge among FHHs, which seem to be limited. On the other hand, the drawn maps became a very simple version of the satellite maps, which shows that the FHHs had a good sense of their spatial surroundings, especially considering that some had never seen or used a map before the session. For instance, the drawn map by the FHHs of Chitekesa shows exactly the intersection and the directions to various landmarks, as could also been identified at the satellite map. The FHHs in Chimembe had a different approach and focused on their route to Chimembe health facility. It shows they mainly remember the route through the names of the small

settlements they pass by, hereby shows their drawn road similarities with the actual road to Chimembe (see image 6).

Moreover, the exercises revealed there exists a certain interest in spatial information, for instance because some of the respondents valued the exercises as interesting. Furthermore, this enthusiasm for maps has been visible by a few other activities during my time in Malawi, such as the various Openstreetmap trainings that were organized at universities, but also the activities provided by mHub[10]. This might indicate an opportune timing for the use of more participatory mapping approaches in spatial decision-making and development processes in Malawi.

Then, the participatory exercises with the HSAs provided me with somewhat more concrete knowledge in relation to the FHHs. For instance, the created maps by the HSAs were more detailed than those of the FHHs; at Chitekesa the health centre, the bridge, mountainous terrains and waterways were all present at the map (see image 9). The map of the HSAs in Chimembe revealed on top of those features also a scale and legend (see image 8), which shows some good knowledge of what a basic map should contain (Heywoord et al., 1998). These different maps and approaches of the FHHs and HSAs uncover that there exists a variation in the level of spatial knowledge among the participants, whereby the people at higher levels in the health care environment possess substantively of more spatial knowledge than the people employed at lower levels or the FHHs. This could be a cause or a consequence of the fact that the lower levels of health care provision and FHHs are regularly less dominant voices in Malawian society. Furthermore, this variety of spatial knowledge also reveals that it is necessary this knowledge will be transferred to all levels of the Malawian health care environment in order to create more inclusive and equitable health care access.

Moreover, this study had the intention to use a qualitative form of GIS, with participatory exercises, to make spatial information and development processes accessible for also the unheard voices of society (Abbot et al., 1998; Elwood, 2006b; Brown & Kyttä, 2014). Local voices, perceptions and knowledge – in this case of FHHs and lower levels of HCPs– have been given a platform where there was sincerely listened to them by being attentive to avoid judgments. By engaging these frequently forgotten voices actively and by allowing them to express themselves, I tried to enhance their awareness about their own capabilities of

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[10] mHub is Malawi's first technology and innovation hub and offers various activities in the field of mapping: http://www.mhubmw.com/

recognising, and potentially also addressing issues and spark developments (Dale, 2005). The way of thinking to make use of their own agency is something which is not very common to those unheard voices, as has been revealed in chapter 5. Furthermore, the data has uncovered that interesting elements are revealed when including different types of groups into spatial processes, since there are substantive variations present among the outcomes and within the maps. For instance, it has become clear that for some the long distances with a child on their back is the main struggle, while for others the lack of bridges to cross the water is the toughest obstacle. In other words, to achieve more equitable accessibility to health care it is of vital importance to include the views and knowledge of frequently unrepresented groups into spatial decision-making and development processes.

According to Elwood (2006a) when making use of qualitative GIS and mapping exercises - inspired by a feminist approach - the same kind of critical questions should be asked as the primary criticisms of traditional GIS: which type of knowledge has been created? Has the process been inclusive and participatory? For this study, I can acknowledge the difficulty of developing and unfolding a participatory and inclusive process, as is part of a feminist GIS approach.

An example of this is that I have not involved the drafted maps into ArcGIS software afterwards, since the drawn maps do not reveal very detailed or concrete spatial information, which could be of use for further quantitative GIS analyses and management. The collected data mainly has been supportive in providing a qualitative understanding of the lived experiences of utilising maps, as well as health care accessibility. The absence of this concrete information uncovers an interesting element to be attentive to when conducting qualitative GIS in a less developed country context. If the aim is to use qualitative data in ArcGIS, as the full process of feminist GIS entails, it is of importance to ask more detailed questions and for more concrete drawings of exact locations of obstacles or issues for instance. Hereby, this study has taught me that the part of inserting quantitative spatial information into qualitative GIS has not been the necessarily challenging element, however inserting the qualitative retrieved information back into traditional GIS again has posed complexities for me, which confirms earlier revealed challenges of Cope & Elwood (2009).

Furthermore, I had the intention to include the FHHs and HCPs in multiple parts of the process, however in the end, due to time limitations, I was unfortunately not able to go back to the villages anymore to have them verify the collected data and preliminary results. However, despite the difficulties I experienced in making use of feminist GIS to the full extent, the

findings in this chapter still do reveal that qualitative forms of GIS can be of value for developing country contexts, whereby careful attention should be paid to the just mentioned challenges.

Altogether, this chapter has highlighted some interesting findings when one includes an alternative type of knowledge, of people which are normally left out, into a spatial development and understanding process in the health care environment. It has shown the value of a participatory method to reveal the various understandings of obstacles in the lived experiences of FHHs regarding their health care accessibility. Hereby, this chapter and study underlines the earlier studies of Macfarlane et al. (2000), Rifkin (2003) and Makaula et al. (2012) who also claim the value of connecting health equity and community empowerment by including health care users to negotiate their access, express their concerns and demand appropriate care to reach effective health outcomes. Furthermore, it seems to be a valuable contribution to the existing academic health geography literature, since most previous data have been based on self-reported survey data instead of qualitative GIS methodologies.

Chapter 8: Conclusion

This study has been designed to contribute somehow to advancements of SDG number three, by uncovering obstacles of health care accessibility in a developing country context of Malawi. Hereby, I aimed to explain the role of geographical factors and individual context in determining access to health care services for FHHs in Malawi, by making use of feminist GIS. By the use of feminist GIS, I aimed to explore the position and to capture the lived experiences of FHHs in Malawian's health care environment, as well as whether inclusion of their voices into spatial development processes would be valuable to enhance health care accessibility in Malawi.

The existing academic literature revealed that the concept of FHHs has been scarcely studied for the Malawian context, especially in terms of qualitative approaches, and not at all in terms of health care accessibility. While, in some other Sub-Saharan countries FHHs had been identified as a marginalised group regarding access to health care services (Mannan et al., 2011; Onah & Govender, 2014; Masanyiwa et al., 2015). A study whereby this subgroup is assessed regarding their health care accessibility in the Malawian context has therefore been of relevance to potentially enable the construction of more inclusive and equitable solutions to health care accessibility.

By adopting a qualitative methodological approach and involving both the FHHs themselves as the perspectives of HCPs, I was able to capture a variety of lived experiences of FHHs in Southern rural Malawi. I have shed light on the diverse challenges FHHs are facing in terms of accessibility of health care services as well as to sustain in their livelihoods. On the other hand, the data uncovered strength and capability among the FHHs to success in their own values; such as generating (financial) means for their household and their pride of being a good mom. Their position in Malawian society, and also some of the explored values, differ from those of Western conceptualisations. This underlines the essence of capturing the diversity of lived experiences of FHHs and women related to their own contextual factors. Hereby, I hope that my analysis has contributed to the existing gap in the academic literature upon the understanding of the concept of female headship in the Malawian context. As well as, more generally, the limited academic knowledge of the lived experiences of FHHs regarding health care accessibility in developing countries.

Furthermore, my analysis confirmed earlier findings that FHHs are not involved into modern health care policy making in Malawi. Moreover, it disclosed this might be the result of the fact that FHHs are not considered as the most relevant or beneficial target group by

Malawian HCPs. The findings of this study highlight that the acknowledgement of a FHH being vulnerable in terms of health care access depends on other sociodemographic characteristics. On top of that, the FHHs in this study identify themselves more with the subgroups 'heads of the households' or 'women' instead of the specific combination 'women' and 'head of the household'. This indicates the label of FHHs is not of value to portray the lived experiences of Malawian FHHs and should therefore not be incorporated on itself into Malawian policy making. Additionally, a specific focus on FHHs in health care policies would also overemphasize the vulnerable sides of FHHs, while this study has shown that FHHs also consider themselves as strong and proud. Based on these outcomes, I would recommend Malawian and international policy makers not to target FHHs specifically in health care policy making. but instead to target and explicitly include other population groups they are part of, such as elderly, HIV+/AIDS patients or pregnant women.

Then, this study focussed on the lived experiences, influenced by either geographical factors, individual context, collective circumstances or an interplay, to explain the difference between perceived access and measured accessibility to health care FHHs. This has been done through locating communities were a discrepancy became apparent between the measured accessibility, based on spatial data, and the perceived accessibility, based on quantitative survey answers. This resulted in the two study sites of Chimembe were measured access was poor, however perceived access was rated as good, and Chitekesa; here perceived access was rated poor, while measured access was good.

The qualitative exploration of the lived experiences at these two study sites allowed me to get an understanding of which factors influence the health care access of FHHs. Hereby, the data revealed that geographical factors, as distance and type of terrain, explain particularly the measured access to health care services. Despite from their measured accessibility, the FHHs expressed some more factors influencing their health care access, namely their perceived accessibility, being it either due to their individual context, collective circumstances or an interplay. One thus has to look further than the geographical dimensions of access, by also taking into account individual and collective dimensions of access and their interactions.

Then, the current indicator for good health care accessibility in Malawi is defined by an 8-km radius, which is proven in this study as insufficient, because even people within this radius perceive their health care access as poor. There seems to be a need for Malawi to adopt a new kind of approach to assess and improve health care access with a wider focus than a quantitative supply-side indicator. I would suggest therefore an integrated approach. whereby both the

supply- and demand-side of the health care system are addressed in parallel by both governmental (top-down) and collective action (bottom-up) initiatives. The focus should lie on raising awareness among the Malawian population about their health care seeking behaviour and stimulating the creation of collective demand-driven and community-owned solutions, for instance through making use of participatory exercises, with a solid representation of all sub- and/or marginalised groups within the community. This should go hand-in-hand with top-down efforts from the government in addressing the supply side obstacles.

Additionally, the findings of this study seem to propose that the Malawian health care system could benefit from recognising the value of traditional medicine, the local knowledge and its capacity in their health care environment. Since, their availability and the use of traditional medicine is still significant it will be beneficial to use it for the better of the whole health care system by regulations than prohibiting it.

Furthermore, this study explored whether inclusion of regularly unheard voices – FHHs and local HCPs - into spatial development processes would be valuable to enhance health care accessibility in Malawi. By making use of a form of qualitative GIS through participatory exercise it was possible to get an insight in the existing level of spatial knowledge among FHHs and HCPs. The intention of using such a qualitative form of GIS has been to include perceptions and knowledge into a spatial development process, because by involving the lived experiences of frequently left out perspectives, more inclusive and equitable access may be achieved. Although, previously has been recommended to avoid the specific targeting of FHHs into Malawian health care policy making, this study does seem to indicate that it is of value to include their voices, however among others, into participatory spatial development processes regarding health care accessibility. This may be a valuable contribution to the existing academic health geography literature, since previous most data have been based on self-reported survey data instead of qualitative GIS methodologies. Furthermore, by using qualitative GIS as a tool in spatial development processes low levels of agency, as has been identified among individual community members, could be encouraged and perhaps potentially lead to more collectively owned initiatives. Therefore, this study makes the argument, that qualitative forms of GIS can be of value to generate vital initiatives in developing country contexts, such as in this case is identified for Malawi.

All in all, this study was developed to provide a contribution to the existing health geography literature upon the understanding and analysis of accessibility to health care services in a

developing country context through the eye of FHHs. Hereby, specific attention has been divided to explore the divergence between measured and perceived accessibility through the lived experiences of geographical factors and individual context of FHHs in Malawi. An innovative triangulated model was tested by making use of a combination of spatial, quantitative and qualitative data to show that a combined approach seems to be of value to uncover the underlying factors explaining obstacles in health care accessibility, and thereby the mismatches between Malawian health care policies and the lived experiences of health care users.

Furthermore, this study also has proven the value of triangulation of research respondents by incorporating both perspectives of the health care system in the same research design; health care users and health care providers. Several experienced challenges could be more extensively comprehended thanks to this combination, since they were either verified or invalidated by the other type of respondent; such as the issue of discrimination of elderly by HCPs as a consequence of prioritisation for health care access for children, and the behaviour of the MA in Chitekesa as a consequence of the intense workload and due to a shortage of drugs.

Next to this, the study revealed that either a quantitative or qualitative methodology is not able to capture all present geographical and individual obstacles regarding health care accessibility in Malawi. This underlines the value of using the presented model whereby triangulation of research methods is incorporated. The results of this study may assist health care policy makers to come up with more inclusive and integrated solutions to improve accessibility in rural settings of Malawi or African countries, which face similar obstacles. A few other recommendations to assist health care policy makers to develop such an approach are suggested in the next section. The testing of this novel model of triangulation contributes to the academic literature by introducing an alternative assessment of health care accessibility in developing country contexts. I hereby hope that my study and analysis will be of value to contribute to a certain extent to the achievement of SDG number three in 2030.

8.1. Policy recommendations

Enhancing accessibility to health services to enable good health care for all is a big concern for many policy makers. The intended outcome of the model I have tested has been to advance planning and policy instruments by uncovering evident mismatches between perceived and measured access, in order to achieve higher levels of accessibility to health care services. This section provides a few recommendations to potentially enrich health care policies and initiatives, especially in the context of Malawi.

As has been highlighted in the previous section, a comprehensive and inclusive approach should be adopted, which takes into account both demand- and supply side issues and collaborates with NGOs, private-not-for-profit and traditional medicine initiatives. I am aware this sounds complicated and not very practical yet, for that reason it would be smart to look at how other developing countries policies and how they have been dealing with some of the challenges which are not endemic to Malawi.

Furthermore, it is of importance that this approach is aware and will fit the desires of its health care users and therefore involve them into the development process, for instance through qualitative GIS sessions within communities. This will require both time and effort. It could be useful when other people with experience will be engaged in those processes, for instance (foreign) researchers, NGOs etc. However, one should take into account whether these people have different societal backgrounds, since it is of importance that the approach is adapted to the cultural context of Malawi in order to achieve structural changes for the health care environment of Malawi. On the other hand, it is of equal importance that a variety of voices is integrated in the policy making environment in itself. Therefore, it is recommended to live up to more inclusion of women or other minorities into political and economic institutions in Malawian society.

Next, I recommend that policy makers look into activities which can be undertaken by volunteers for some hours per week to enhance accessibility to health care services. As became evident in this study, one of the nurses mentioned they recently started with volunteers in Chimembe area and regarded this as a positive contribution. Furthermore, from this study, I got the sense that there are multiple community members who feel engaged with their community and are happy to be actively engaged for the collective good of the community. This could be a low-cost, high-impact solution, whereby volunteers may be trained in certain tasks and may thereby contribute to solve obstacles as out-of-reach services, waiting times or overworked health care staff.

Moreover, I recommend that the government invest in digital technologies to enable mHealth and eHealth initiatives to improve accessibility to health care services. These technologies can offer extensive improvements, such as saving time, working more precise and avoiding certain mistakes, improving communication with other health workers or facilities (DeRenzi et al., 2011). I am aware this seem to sound complicated taking into account the context of Malawi, whereby structures to enable digital technologies are still poorly developed. However, simple advancements may be made by extending the current use of SMS systems as

explained by the HSAs to the whole of Malawi or by elaborating the possible options to use a SMS system to contribute to more effective health care service and outcomes. Furthermore, it could be interesting, on the long haul, to link real time information through SMS messages with maps, this allows, for instance, MAs to follow what is happening at the outreach facilities and perhaps even assist from a distance[11].

The above has given an overview of the contributions of this study to the wider academic literature considering health care accessibility, as well as, more practically, it has provided certain suggestions for Malawian health care policy makers to improve the current levels and experiences of accessibility. On the other hand, it is of equal important to name the limitations of the chosen research design and performed study. In the next section, I will discuss those limitations to enhance transparency put the study into perspective.

8.2. Limitations

One of the ethical principles in this study has been that a researcher should adhere to honest reporting. Therefore, I want to highlight, first of all, that the conclusions and recommendations of this research are based on a case study design, whereby only data is created with a number of purposively or convenience sampled participants at two districts in Southern rural Malawi and some national health care providers. I acknowledge that this may not automatically present perceptions of other health users and providers and the health care situation for the rest of Malawi. The limited transferability of this study to other contexts, countries and populations is a common limitation in the field of qualitative research and the case study design (Adler & Clark, 2011). For this reason, I adopted triangulation in both research methods as participants, whereby the findings of this study have been examined in the light of the existing policy documents. This has shown a certain amount of overlap and in addition some new findings in the context of Malawi, which however have been acknowledged in the academic literature to be existent in other countries. Therefore, I believe my findings are assignable for other rural districts in Malawi with a related health system context, where more than 80% of Malawians live (National Statistical Office, 2008; United Nations Development Programme, 2016). And partially, especially the role of FHHs in the Malawian health care environment, for other Southern African developing countries.

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[11] mHub currently explores the potential of this option

During the data collection, it became evident that there existed a certain 'allowance/incentive culture' at both of the study sites, whereby some of the participants only wanted to take part in the study if they were compensated financially. A phenomenon becoming increasingly evident in developing countries (Head, 2009). On purpose, I made the decision to refrain from offering incentives, because it may affect certain research ethics; decision-making to participate voluntarily or the level of honest responses, since respondents may answer what the researcher would like to hear (McKeganey, 2001). As a result, the TA of Chitekesa did not became involved in the study, with perhaps the consequence that some responses about the community given by either HCPs or community members were not possible to be validated to enhance the credibility of those answers. Furthermore, one of the nurses in Chimembe kept asking for financial compensation, although there was made clear at the beginning of the data collection that this would not happen. She still participated, however I assessed her answers with more scrutiny, since the likeliness was higher that she would answer according to – what she thought – were our desired answers.

Moreover, secondary data has been used in this study in order to enable triangulation of methods. A limitation of secondary data is that the researcher was not present at the time of data collection, this makes it more difficult to assess the quality of the data. I tried to cover this limitation by asking the research (assistants) - who were present at the data collection of the quantitative survey – for more information about the way they collected the data, with being specifically attentive to aspects as objectivity and validity. All in all, the outcomes of my qualitative approach were more or less in line with the majority of secondary data, which suggests that the impact of this limitation has been considerably small in this study.

Next to this, due to delays with obtaining the research permit and the arrival of the assisting research team, the time I had to perform this study became limited. As a consequence, it did not happen to perform the participatory GIS approach to the full extent. When all the data was collected and transcribed, there was no time left to head back to the communities to have them verify the preliminary results, which may have affected the validity of the outcomes. Furthermore, performing a well-implemented PGIS approach was very challenging in general. The limited existing spatial knowledge among community members makes it time intensive and complicated to involve them in the entire process. It has given me an insight in the complexity of implementing well-performed PGIS. This is a valuable lesson for other researchers to take into account before they aim to use this type of methodology.

Then, lastly another limitation of a qualitative research design may be the influence of the positionality and personality of the researchers. For instance, I was in many perspectives an outsider regarding the research topic. This might have affected the truth and reliability of certain responses, because I got the feeling that some respondents may have exaggerated certain obstacles in their accessibility with the expectation that I as a western researcher could change the situation for them. The research team and I tried to minimalise this effect by expressing explicitly at the beginning of each interview and FGD that they should not expect any concrete changes from us, especially not in the short term. When we as team still had the feeling this way of reporting was happening, I made a note about it and regard the answer with scrutiny during the data analysis. The further impact of my positionality and personality has been in detail reflected in chapter 3.6. On the contrary, being an outsider also allowed me to capture certain nuances, which might have been perceived as ordinary or not of interest by 'insider' researchers, like my Malawian research team members. Some of the mentioned limitations are perhaps possible to overcome by researchers who have a lot more experience with performing PGIS and have more time to carry out a similar study. I suggest, considering both the contributions as well as the limitations of this research, some future research to be undertaken would be beneficial in a variety of forms. Some suggestions are highlighted in the next section.

8.3. Further research

In this study, an innovative method of triangulation has been tested to identify the influence and divergence of measured and perceived access to health care services. It could be of relevance to test this model in other settings, for instance whether it is considered as beneficial regarding health care accessibility in other country contexts or if the model could be of value to be applied in other fields of geographical studies.

Next to this, I believe further research is necessary to explore the impact feminist, or participatory, forms of GIS may have in this suggested comprehensive and inclusive approach, whereby unheard voices are involved into spatial development decision-making and planning processes to accelerate bottom-up improvements. A valuable study would be what kind of approach could work to enhance changes at the demand side obstacles of accessibility, or in other words, how agency among individuals could be enlarged. Furthermore, this study has given an insight that the level of spatial knowledge is a lot more elaborate at the higher levels of the health care environment. It would be interesting for further research to investigate

whether and how this knowledge can be transformed and put into practice by all levels of the Malawian health care environment, both providers and users.

Then, it was suggested that the Malawian government could enhance its efficiency to tackle the current obstacles in accessing health care services, by applying the lessons learned, plans and policies of other developing countries which have faced the same obstacles. Therefore, it could be useful if these plans and policies of other countries are assessed in the light of the obstacles Malawi is facing in order to provide more concise and ready-to-implement policy recommendations to enhance quick improvement of the level of accessibility.

Lastly, I believe it would be of value to explore what the concrete role may be of digital technologies and the development of mHealth and eHealth to overcome accessibility issues to health care services in developing country contexts. Similarly, the impact of integrating elements of traditional medicine into the wider Malawian health care environment for the better would form an interesting and relevant study.

Annexes
Annex 1 – FGD topic guide

In the focus group discussions (FGDs), maps of the relevant geographical area will be used as a starting point for discussion.

1) Information about the study (consent form)
2) Demographic information (gender, age, education, occupation, *vulnerability, type of FHH*)
3) What is it like to be a female head of a household? Explain.
4) First the informants will get a blank sheet of paper, and will be asked to draw their own map of their community, including the location of the health facility/ facilities they use for primary health care. They will be asked to draw common pathways/ routes of getting to the facility, and describe modes of transport.
5) They will then be shown printed maps with information about location of public health facilities, roads, paths, rivers, lakes and so on, and will show areas where health service users perceive to have both poor access to health care and good access to health care, as well as measured geographical accessibility. They will be asked to help us understand the data presented on the maps.
6) Have you seen a map before? Do you understand what facilities are where? How does it differ/match with your own perceptions of the area?

The maps and the information in the maps will be used as a starting point for the discussion, which will focus on the following thematic areas on a general level, and more specifically for each geographical location:
- Which health facility do you go to when you are ill?
   o Why do you go to this facility?
- Are there other health facilities that you use?
   o Which ones?
   o If yes, why do you use this facility?
- At the facility that you normally go to, what is good about this facility? What is bad?
   o Issues to consider:
      ▪ Distance
      ▪ Transport, availability of ambulance
      ▪ Environmental characteristics (roads, terrain, transport, etc.)
      ▪ Economic
      ▪ Facility level characteristics (staff, medication)
      ▪ Individual and family characteristics
      ▪ Other
- What experiences do you have of bad health care/ poor access to health care in this area?
- Are these experiences similar or different from other people? Explain
- Have there been any initiatives to address these challenges that you have mentioned? Explain.
   o What initiatives?
   o Who made them?
- What else need to be done to improve health care in this area?
   o Who should make these changes:

- What can you as individuals/ families do to improve health care?
- What can others do to improve access to health care for you/ in this area (community/local authorities/ national authorities/ government/ health workers/ etc.)?
  - Suggestions towards changes that could be made to improve health care:
    - Location of various kinds of facilities
    - Roads
    - Paths
    - Transport/ ambulance
    - Type of facility/ health worker
- For South West – Blantyre (The perceived access is good, while measured access is poor (C).):
  - Previous research has shown that people in this area are quite happy with their access to health care (even though the health centre is far away); do you agree with this?
  - If yes: why do you think people in this area are happy with the health care?
- For East West – Phalombe (Perceived access is poor, measured access is good (B).)
  - Previous research has shown that people in this area are unhappy with their access to health care (even though the health centre is close by); do you agree with this?
  - If yes: why do you think people in this area are unhappy with the health care?
- How was it to use a map to talk about access to health care and potential improvements?

1. Health care providers
Obtain map of catchment area of the health care facility

In the key informant interviews (KII), maps of the relevant geographical area will be used as a starting point for discussion. Informants will be shown printed maps with information about location of public health facilities, roads, paths, rivers, lakes and so on, and will show areas where health service users perceive to have both poor access to health care and good access to health care, as well as measured geographical accessibility. They will be asked to help us understand the data presented on the maps.

The maps and the information in the maps will be used as a starting point for the discussion, which will focus on the following thematic areas on a general level, and more specifically for each geographical location:

1. How would you describe the health care system in the clinic catchment area/community you are working in? *(What about Traditional Medicine / Home-based health care/ Mobile clinics / Mobile phone technologies? Are these facilities used?*

A map of the area will be shown with health care facilities present

2. Could you locate the health care facilities you are aware of in your area? *Including TM*
3. Which health facility do people in this area go to when they are ill?
    o Why do you think they go to this facility?
4. Are there other health facilities that they use?
    o Which ones? (TM? To what extent is that used?)
    o If yes, why do you think they use this facility?
5. What is good about this facility? What is bad?
    o Issues to consider:
        ▪ Distance / Travel time
        ▪ Transport, availability of ambulance
        ▪ Environmental characteristics (roads, terrain, transport, seasonal patterns or weather etc.) How much of your journey is along a path/road (25 -100%) How much does this hinder you when there is no path?
        ▪ Economic
        ▪ Facility level characteristics (staff, medication)
        ▪ Individual and family characteristics (e.g. language, safety; crime/wildlife, cultural barriers; religion or gender)
        ▪ Access to information and communication (hours of operation, accommodation)
        ▪ Other
6. What experiences do you have of bad health care/ poor access to health care in this area? *Point out good and bad access areas.*
7. Have there been any initiatives to address these challenges that you have mentioned? Explain.
    o What initiatives?

   o Who made them?
8. What else need to be done to improve health care in this area?
   o Who should make these changes:
     ▪ What can individuals/ families do to improve health care?
     ▪ What can others do to improve access to health care for you/ in this area (community/local authorities/ national authorities/ government/ health workers/ etc.)?
   o Suggestions towards changes that could be made to improve health care:
     ▪ Location of various kinds of facilities
     ▪ Roads
     ▪ Paths
     ▪ Transport
     ▪ Type of facility/ health worker
9. For South West – Blantyre (The perceived access is good, while measured access is poor (C).):
   o Previous research has shown that people in this area are quite happy with their access to health care (even though the health centre is far away); do you agree with this?
   o If yes: why do you think people in this area are happy with the health care?
10. For East West – Phalombe (Perceived access is poor, measured access is good (B).)
   o Previous research has shown that people in this area are unhappy with their access to health care (even though the health centre is close by); do you agree with this?
   o If yes: why do you think people in this area are unhappy with the health care?

Specific focus on FHH:
  11. How do you understand the concept 'female heads of households'? *(Prob: do you use it?)*
  12. How is access to health care facilities different for FHH? Explain.
  13. What are the particular challenges compared to other population groups? Explain.
  14. Would you address specific solutions for FHH? Explain.
  15.

Spatial knowledge and participatory GIS

  16. How familiar are you with maps? (*Do you use maps in your work or daily life? For what purposes?*)
  17. Does this map matches with your view of the area? *Explain.*
  18. How do you think maps can be useful in understanding access to health care

  2. Female heads of households
This in-depth interview guide elaborates on topics which have been briefly discussed in the focus group discussions. It aims to deeper explore the specific issues. The guide is meant as a tool to guide the conversation, but does not necessarily has to be followed-up. When it is experienced that a participant has a lot to share herself, which is relevant for the research, the flow of speaking should not be interrupted.

Access:
- What health care facilities are you aware of in your community?
    - Consider: Traditional healers / Traditional Birth Assistant / Home-based care / Mobile Clinics / Phone technologies for distant health care
- What are your personal experiences with accessing health care? Explain.
    - Does it differ from other population groups? If yes, how?
    - What is good? What is bad?
    - What challenges are there?
    - Consider:
        - Distance
        - Transport, availability of ambulance
        - Environmental characteristics (roads, terrain, transport, etc.)
        - Economic
        - Facility level characteristics (staff, medication)
        - Individual and family characteristics
        - Other
- What is your experience with not accessing health care, while you were ill? Explain.
- Has your access changed over the past years?
    - If yes, how and why?
    - Consider:
        - Household composition
        - Occurring diseases or disability
        - Environmental conditions
        - Costs
        - Facility level characteristics
        - Other
- Has there been any initiatives the past years to address those challenges? Explain
- Which changes would you like to see?
- Why does our data show that people in this community reported in 2010 that they were happy with their access to health care, when people live so far away from the services?

Maps:
- Was this your first time participating in a group discussion?
- How did you experience the map-drawing exercise?
- What did you think when seeing the map? Explain.
    - Consider: difficult or easy / new or more often used / useful or not
    - Did the map help you to share your opinion? Explain
- Do you use maps in your daily life? Explain why or why not.
    - If maps are more available for you would you use them?
- Would you participate in the future in another group discussion using maps? Explain.
    - If no, because of the map part or the group discussion part?

Female heads of households
- Could you tell me more about daily life as a female head of a household? How is it like?
    - Has it always been like this?
    - Why are you a female head of the household?

- Do you experience different treatment then Male headed households (MHH) or women within MHH? Positive and / or Negative?
- What challenges does it bring along to be a FHH? And opportunities?
- Is there anyone else involved in the decision-making of the household? Explain
    o If yes, what about decisions regarding access to health care?
- Do you meet with other FHH? Why?

Annex 3 – Coding guide

Final coding framework:

Name of the code	Number of sources referring to the code	Total amount of references to the code
Being a FHH	**19**	**100**
Change from husband to FHH	6	8
Common in the community	11	12
Difficulties FHH experience	18	47
Emotionally	*1*	*1*
Not physically strong	*3*	*3*
Own health conditions	*2*	*2*
to access healthcare	*12*	*16*
to find money	*11*	*13*
to provide everything	*13*	*18*
Feelings of being FHH	18	79
All responsibilities with the woman	*12*	*38*
Decision-making	3	3
Earning income-Farming	7	14
Family is healthy and doing good	4	4
providing food	7	10
Taking care of kids	5	8
Discrimination - Treated differently within the community	*5*	*5*
Not treated as a special group	11	16
Not a choice	*1*	*1*
Peace of mind	*3*	*3*
Thing of honour	*1*	*3*
Help from others	10	21
None	*6*	*7*
Others	*2*	*3*
Possibilities	*3*	*3*
Relatives	*4*	*8*
Support with other FHH	5	12
None	*5*	*6*
Possibilities for support	*4*	*6*
Used in policy making or planning	2	2
Challenges in accessing health care	**21**	**290**

Certain behaviour of patients or community	4	17
Corruption	6	11
Difficulties with transportation opportunities	7	18
costs of transportation-motorbike	*3*	*7*
Insufficient opening hours	5	12
Lack of equipment & structures	14	32
Lack of governance or corporation between facilities	3	7
long distance or travel time	12	34
long waiting times to get assisted	7	11
Money	10	23
More difficulties for these population groups	11	30
No adequate medicine	19	41
Insufficient dosage	*3*	*5*
Not available	*17*	*28*
Wrong medicine	*3*	*7*
No good assistance	6	14
Referral service	10	21
Road condition	9	16
Influence of Climate	*6*	*6*
Terrain	*4*	*5*
Staff	18	56
Lack of personal commitment	*5*	*7*
Lack of sufficient skilled staff	*14*	*30*
Rotation of staff	*4*	*4*
Treatment of staff towards patients	*7*	*23*
Discrimination	2	6
Patient not regarded as important	4	5
Refused treatment	4	11
Shouting or insulting	3	8
Changes in health care	**20**	**88**
Better hygiene levels	3	7
Collaboration with NGOs	5	9
Expansion of facilities and equipment at the clinic	14	28
Increased awareness of importance of seeking modern healthcare	5	7
Loss of quality (due to less funds)	1	2
New rules and shift in health trends	4	4
New staff and structures	10	17
No change	3	4
Receive faster or better assistance-medication	9	21
Consequences of bad access	**17**	**52**
Buy own medicines	8	12

Conditions worsen or people die	11	21
Going to paid facility	8	16
Stop seeking treatment - stay at home	6	12
Current initiatives to address challenges	**12**	**28**
Report to someone (e.g. DHO or TA)	7	8
Collaborate with NGOs	3	7
HAC	5	6
New equipment	2	3
Encourage people to come earlier	2	2
Exposure of problems	2	3
Experiences of working as HCP	**10**	**32**
Too much work or Tiresome	6	12
Frequency of visiting health centre	**4**	**5**
Lack of ownership of problems & agency	**2**	**3**
Modern medicine system	**20**	**194**
CHAM	2	21
Chimembe HC	9	41
Chitekesa HC	9	40
Community Case Management (phones)	2	5
HAC (Health Advisory Committee)	8	21
Home-Based Care groups	3	4
HSAs	11	35
Involvement of NGOs or Donors	3	11
Matiya CHAM	5	18
Referral service	10	20
Structure of the health care system	3	13
Volunteers	3	3
Reaching the facility	**14**	**24**
Response to 2010 survey	**13**	**29**
Far distance, bad access	2	5
Far distance, good access	10	18
Small distance, bad access	3	6
Small distance, good access	1	1
Satisfaction- Positive thoughts about health care	**21**	**103**
Enough and right medicine	14	27
Receive good and quick assistance	10	21
Reachability	10	14
Road conditions	*3*	*4*
Free of charge	4	6
Referral service	3	4
Supplementary food	3	3

Good facilities and structures available	9	16
Staff	13	16
Services of the Health Centre	**17**	**35**
Solutions to the challenges	**20**	**71**
Community (collective) approach	8	9
Create Awareness or Educate	2	3
Expansion or improvement of structures	8	10
A closer health facility	*6*	*10*
Governmental action	13	21
More or better equipment for the facility	7	7
Nothing to do	3	9
Related to staff	8	14
Report problems to someone	5	7
Role for NGOs	3	4
Traditional Medicine	**20**	**79**
Depends on the health problem	7	12
After trying MM	5	10
Spiritual healing	8	21
Preference for hospital	10	15
Scepticism towards TM	2	3
TBAs	7	9
Make use of traditional healing	6	11
Collaboration with or referral to MM	9	18
No collaboration with MM	6	11
Use of maps	**14**	**33**
Helpful or important for	12	23
to reach destination	*6*	*7*
To know where patients come from	*4*	*5*
To visualise and improve access	*10*	*14*
For planning purposes	*3*	*3*
Familiarity	8	9

Annex 4 – Models of the existing codes

See here an example model I created for the category 'challenging in accessing health care'.

Request for participation in research project

"Perceptions of female heads of households towards their access to health care services"

Dear Participant,

I invite you to participate in a study upon the differences between perceived and measured access to health care services by making use of participatory Geographical Information Systems (GIS). My name is Esther Konijn and I am currently enrolled in the Mphil Development and Geography program at NTNU in Trondheim, Norway and I am in the process of writing my Master's thesis.

Background and Purpose
The purpose of the project is to provide you a space to share, and learn from other participants, their perceptions and experiences towards accessing health care services in the districts of Phalombe and Blantyre. Furthermore, the project aims to identify what difficulties are perceived by participants regarding health care access and to what extent participatory GIS might be beneficial in contributing to existing health care policies and plans. The project is part of the collaborative GeoHealthAccess project of SINTEF and the University of Malawi.

Female heads of households are the main participants in this project. The sample is selected through purposive sampling with the help of the chief of your village. Women with different educational backgrounds are selected. I have asked you to participate, since you are a woman who is managing her household herself, whereby no adult male is residing for the permanent term. Furthermore, health care providers are included in the study by having interviews with them to explore their perceptions upon accessing health care services in your district

What does participation in the project imply?
The project involves focus group discussions (FGD) were you will be participating in, and furthermore semi-structured interviews with health care providers. Besides this, geographical data has been collected to develop maps of the research areas.

The FGD will be facilitated by a Malawian researcher. The data will be collected both by a Malawian note-taker and by having the discussion recorded. The FGD will be held in the language all respondents feel comfortable to use. From time to time the facilitator will be briefly translating the progress to me, so I will be able to guide the process in the most beneficial way for knowledge sharing among participants. The FGD will approximately take around 2 hours and will take place in a comfortable setting for all participants. The FGD will start off with an exercise to map the area, then other topics will be addressed, such as: understanding of being a female head of a household, access to health care services, solutions for possibly existing issues, understanding of maps and sense of distance. Besides, you are welcome to address other topics, which you think are relevant for discussion, as well.

What will happen to the information about you?
All personal data will be treated confidentially. Only the researcher, the research assistant(s), supervisor and researchers involved in the GeoHealthAccess project will have access to the collected data. The recordings and notes will be stored in a locked and safe space and are used by the researcher and research assistant only. These will be separately stored from any personal information. Participants will be anonymized in the final publication.

The results from this study will be shared with you if you are interested, so further sharing and learning can be established. Furthermore, the results will be written up in the master thesis publication.Lastly, the results may be shared with the Ministry of Health or related bodies in order to contribute to further policies and planning regarding inclusive health care access.

The project is scheduled for completion by 31st of May, 2018. At this point all personal data and recordings will be deleted completely, since there is no aim for further use.

Voluntary participation
It is voluntary to participate in the project, and you can at any time choose to withdraw your consent without stating any reason. If you decide to withdraw, all your personal data will be made anonymous. Participation in this research will not involve any risks for you and more specifically, it will not affect any relationships with health care services.

You can benefit from participating in this project by having the opportunity to meet other female heads of households and to share experiences. Besides this, you can provide an insight on what issues in accessing health care services exist and how you believe this should be addressed. You have to be aware that this project will not directly contribute to improvements in health care access in the short term.

If you would like to participate or if you have any questions concerning the project, please contact:

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The study has been notified to the Data Protection Official for Research, NSD - Norwegian Centre for Research Data.

Annex 6 – Health care barriers based on EquitAble survey data

Obstacles in access to modern health facilities	Total % of respondents who mentioned this obstacle	Percentage who mentioned it is a small problem	% who mentioned it is a serious or insurmountable problem
No services available	58,0%	71,5%	28,5%
Inadequate drugs or equipment	57,9%	71,8%	28,2%
Lack of transportation from home	50,5%	71,4%	28,6%
No money for treatment	43,3%	75,8%	24,2%
Negative attitudes of HCP	39,2%	84,1%	15,9%
Physical access to facility	25,8%	91,0%	9,0%
No money for transportation	25,6%	90,8%	9,2%
Bad experiences with previous treatment	21,9%	92,0%	8,0%
Dangerous journey	20,9%	91,9%	8,1%
Not in possession of necessary documents	19,8%	93,3%	6,7%
Sickness was not serious enough	18,6%	95,9%	4,1%
Access was refused	16,7%	94,0%	6,0%
Could not get time off from work	14,6%	94,2%	5,8%
Communication with HCP	14,3%	95,1%	4,9%
Standard of the health facility	7,3%	98,0%	2,0%
Religion/Faith	6,0%	98,7%	1,3%
Not knowing where to go	5,2%	98,5%	1,5%

I have created the table (portrayed after this section) to provide an overview of the obstacles and the level of impact of each obstacle regarding accessibility to health care services in Malawi, based on the EquitAble survey data. Although, quite some challenges became evident, still 72,9% mentioned to be satisfied to very satisfied with the current health care provision in 2012.

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